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Variability of Major Organic Components in Aircraft Fuels

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This report summarizes qualitative and quantitative data on the chemical variability of approximately 300 features (chemical components or mixture of components) in neat Air Force distillate fuels, in water equilibrated with the fuels, and in the vapor phase above the fuels, from over 50 fuel sources. These data were obtained to better understand the environmental effects of possible fuel spills and to serve as baseline data which can be used in the development of environmental models for photochemical smog, soot formation from Air Force use of these fuels. Feature concentration averages, ranges, standard deviations, and percent relative standard deviations were determined for the 300 features in over 50 fuels, analyzed in duplicate.

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11. Aircraft Fuels

EXECUTIVE SUMMARY

This report summarizes qualitative and quantitative data on the chemical variability of approximately 300 features (chemical components or mixture of components) in neat Air Force distillate fuels, in water equilibrated with the fuels, and in the vapor phase above the fuels, from over 50 fuel sources. These data were obtained to better understand the environmental effects of possible fuel spills and to serve as baseline data which can be used in the development of environmental models for photochemical smog, soot formation from Air Force use of these fuels.

Over 50 petroleum-derived JP-4 fuels, one shale-derived JP-4 fuel, and one petroleum-derived JP-5 fuel were analyzed. The variability of the absolute concentration of major features in the neat fuel was reported in an earlier study (see Reference 1). This report summarizes results for the variability of the major features in water which has been equilibrated with the neat fuels, and in the headspace above the neat fuels. Data base management programs were used to measure feature variability in the data base of over 50 fuels. Feature concentration averages, ranges, standard deviations, and percent relative standard deviations were determined for the 300 features in over 50 fuels, analyzed in duplicate. The variability of data acquisition and data analysis phases of the study was also assessed by calculating the averages, ranges, standard deviations, and percent relative standard deviations for the 300 feature concentrations of one JP-4 fuel which was used as the Reference Fuel and analyzed 18 times for water-soluble features and seven times for vapor phase features.

The Reference Fuel also served as the calibration standard for a portion of the capillary GC/FID data analysis. Each of the 300 feature concentrations was calibrated relative to the Reference Fuel feature concentrations.

The following general conclusions can be drawn from the results of this study:

- The ability of the automated GC/FID laboratory data system to identify fuel features, generate precise Kovats Indices, and reproducibly quantify the concentrations of identified fuel features, is excellent.

- The same analytical instrumentation and approach can very easily be used for the analysis of the neat fuels, water which has been equilibrated with the neat fuels, and the vapor phase above the neat fuels.

- The Reference JP-4 Fuel chosen for this study appears to be a good qualitative standard for the neat fuels, water equilibrated with the neat fuels, and vapor phase above the neat fuels.

- Most features identified by the automated GC/FID laboratory data system can be correlated with those obtained in a GC/MS analysis.

- The fuel component identity and amounts in this study agree well with those in other studies.

- Because the variability of fuel features by automated GC/FID analysis is highly reproducible with respect to Kovats Index and concentration, and, as shown in Reference 1, because the feature variabilities correlate well with specific compound variability measured via GC/MS, the automated GC/FID system provides a rapid, inexpensive, and reliable method of identifying the specific components causing fuel variabilities. This information may be used to establish correlations between fuel component concentrations and specific fuel properties.

Based on the results of this study, the following recommendations are offered:

- The method of automated identification and quantitation of GC/FID features developed in this study should be used industry-wide to characterize the petroleum-derived distillate fuels being supplied to the Air Force.

- The approach of chemical feature identification should be exploited to the fullest to improve the physical properties and performance characteristics of the fuels.

- The data presented in the present report and in Reference 1 should be used as an important data base for modeling environmental effects of Air Force operations.

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PREFACE

This research was conducted by Monsanto Company, Dayton Laboratory, 1515 Nicholas Road, Dayton, Ohio 45407, under contract F08635-83-C-0067 and JON 19002037, for the Headquarters Air Force Engineering and Services Center, Engineering and Services Laboratory, Environics Division, Tyndall AFB, FL 32403. Thomas B. Stauffer was the AFESC/RDVW Project Officer.

The work was begun in November 1983 and completed in December 1984 . This report covers the analysis of 54 different JP-4 Fuel sample headspace equilibrations and water soluble fractions.

This report has been reviewed by the Public Affairs Office and is releasable to the National Technical Information Service (NTIS). At NTIS it will be available to the general public, including foreign nations.

This report has been reviewed and is approved for publication.

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GLOSSARY OF TERMINOLOGY

BIPxxx - Designation for LAS files containing data which have been processed to replace the retention time (in minutes) with Kovats Index/10 for each feature of the processed data file DFPxxx. Feature concentrations are in %REL (relative to the Reference Fuel).

BKPxxx - Designation for LAS files containing data which have been processed to replace retention time (in minutes) with Kovats Index/10 for each feature of the processed data file DFPxxx. Feature concentrations are in absolute units (μg/l and ppm-MF).

DFPxxx - Designation for LAS files containing processed data from the raw data file DFRxxx.

DFRxxx - Designation for LAS files containing raw data from distillate fuels analysis xxx.

DFABVP - LAS Method used to name all vapor phase features in the BKPxxx files and calculate all feature concentrations in absolute units (ppm-MF).

DFABWS - LAS Method used to name all water-soluble features in the BKPxxx files and calculate all feature concentrations relative to the Reference Fuel.

DFPCWS - LAS Method similar to DFABWS which is used to produce BIPxxx files and calculate all feature concentrations relative to the Reference Fuel.

Feature - Peak in a chromatogram identified by the 3357-LAS computer system. Identification is based upon various parameters located in the LAS Method used to process the raw data file. A feature may consist of one or more chemical components.

Kovats Index - Retention index for a specific component in a mixture, obtained by interpolation between the retention times of the next earlier and next later eluting normal alkane. Retention index for n-butane is 400, for n-pentane is 500, and for n-hexane, it is 600, etc.

LAS - Hewlett-Packard Model 3357 - Laboratory Automation System.

Micropipette - Rainin (Gilson) variable volume micropipette, Model P-200, with disposable tip used for making accurate volume measurements.

Method - LAS file which controls the data analysis of raw or processed data files; this file contains variable parameters which control the integration, identification, and concentration calculation of features as well as post-analysis programming and report generation.

Master Method - LAS Methods DFABWS, DFABVP, DFPCWS and DFPCVP, which name all water-soluble and vapor-phase features in the Reference Fuel with concentrations greater than 10 µg/l and 0.5 ppm-MF, respectively. DFABWS and DFABVP Methods report feature concentrations in absolute units and DFPCWS and DFPCVP Methods report feature concentrations in %REL [relative to the Reference JP-4 Fuel (Number 607)].

%REL - Units used to express feature concentrations relative to the Reference JP-4 Fuel (Number 607). A value of 100 %REL indicates that the feature concentration is equal to that of the Reference Fuel.

Processed Data File - LAS file which contains retention time, concentration and compound name information obtained from analyzing a Raw Data File with an appropriate LAS Method.

REP4 - FORTRAN program that statistically summarizes the feature concentration distribution, as in REP6, and reports a histogram of the concentration distribution for each feature in a data base.

REP5 - FORTRAN program that statistically summarizes the feature Kovats Index distribution for each feature in a data base, as in REP7, and reports a histogram of the Kovats Index distribution for each feature.

REP6 - FORTRAN program that statistically summarizes and reports the concentration values for each feature in a data base.

REP7 - FORTRAN program that statistically summarizes and reports the Kovats Index for each feature in a data base.

REP8 - FORTRAN program that reports (outputs) all of the data in a given data base in order according to the first four characters in the sample name.

Raw Data File - LAS file which contains the digital values representing the analogue output voltages from the Hewlett-Packard 5880 Flame Ionization Detector. For this study, these values are stored at a rate of 8 values/second.

Relative Response Factor - Response of a given component relative to the internal or external standard.

Response Factor - Factor which indicates the signal intensity produced by a given amount of a substance in the FID detector.

RTE-6 - Real-Time Executive-6 Operating System used on the 3357-LAS.

SECTION I

INTRODUCTION

A. OBJECTIVES

This program is being completed to determine the chemical variability of Air Force aircraft fuels. The objective was to obtain quantitative and qualitative data on the variability of major and minor chemical components of Air Force distillate fuels. These data are necessary to better understand the environmental effects of possible fuel spills. Results will also serve as a data baseline in photochemical and soot formation studies.

The major goals were met by dividing the study into three phases. In the first part (reported in Reference 1), the variability of concentrations of the major components in liquid aircraft fuels was measured. The final two phases of this study are summarized in the present report. This report summarizes: (1) the variability of concentrations of fuel components in water samples which have been equilibrated with JP-4 and JP-5 distillate fuels and, (2) the variability of concentrations of fuel components in the vapor phase above equilibrated JP-4 and JP-5 fuel samples.

B. GENERAL APPROACH

The variability of water-soluble and vapor-phase components of distillate fuels was measured in a manner similar to that outlined in Reference 1. In that study:

- The major organic components of aircraft fuels were identified.
- These components were quantified in a set of samples from known supplier, lot number, etc.
- The distributions of these components were determined in this well-characterized set of samples.

This report applies the same set of well-characterized samples and quantitative analysis approaches used in the first study to the study of water-soluble and vapor-phase components. Only the details of the approach as they apply to the water-soluble and vapor-phase component analyses will be given. The reader is referred to Reference 1 if further information is desired.

SECTION II

EXPERIMENTAL METHODS

Capillary gas chromatography/flame ionization detection (GC/FID) analysis techniques were used for the determination of the variability of water soluble and vapor phase components in over 50 fuel samples. This report, as in Reference 1, instead of referring to the "components" of aircraft fuels when actually referring to recognizable chromatographic peaks, we will refer to the "features" of a fuel. This terminology adds precision to the meaning of a chromatographic peak. When flame ionization detection is used in the present study, only a retention time identifies a chromatographic peak. Because it is possible that several components may have identical retention times (within the present resolution capability of capillary chromatographic separations), it is imprecise and incorrect to refer to a chromatographic peak as a single component. To emphasize that fact, each peak is referred to as a "feature" of the chromatogram.

Instrumentation and conditions for these analyses are shown in Table 1 of Reference 1. Tables 21 through 28 in Reference 1 give the identifications of the major features of the Reference JP-4 Fuel (Number 607). These identifications were based upon GC/MS analysis of the Reference Fuel reported in Reference 1. The Reference Fuel was also used as a calibration standard for portions of this study. The determination of concentration of the major features in the water-soluble and vapor-phase studies involved first equilibration of the neat fuel samples either with water or in an enclosed vial, followed by capillary GC/FID analysis of the sample extract or head space, respectively. The following section gives details of how samples were handled for these two types of determinations.

A. ANALYSIS OF WATER-SOLUBLE FEATURES

1. Sample Extraction

Table 1 shows the extraction scheme used to determine the concentrations of major distillate fuel features in a fuel sample which has been equilibrated

with deionized water. A 4 ml fuel sample was added to 400 ml of deionized water in a 500 ml separatory funnel, carefully swirled in the sealed funnel for 1 minute, and equilibrated at room temperature for 24 hours. After equilibration, duplicate 40 ml samples of the water phase were quantitatively removed from the separatory funnel without disturbing the fuel phase. Two mls of carbon disulfide was added to the duplicate 40 ml water samples. After capping with the Teflon®-lined lid, each sample was shaken 60 times, centrifuged for 1 minute, and equilibrated for 24 hours at room temperature. After equilibration, 0.8 ml of the carbon disulfide extract was placed in an auto-sampler vial with 0.8 ml carbon disulfide containing 101.76 mg/l anthracene-d10.

2. Extract Analysis

The carbon disulfide extract obtained above was analyzed, using capillary GC/FID analysis methods described in Reference 1. An internal standard quantitation technique was used and all responses of the detected features in the carbon disulfide extract were assumed to be the same as the anthracene-d10 internal standard. This assumption is based upon studies shown in Reference 1 for the analysis of a mixture of normal hydrocarbons from n-pentane through n-hexadecane. Table 2 shows the 3357-LAS integration method used for the analysis of these extracts for water-soluble features present in the neat fuel.

B. ANALYSIS OF GAS PHASE FEATURES

1. Sample Equilibration

Twenty mls of each fuel was placed in a 40 ml vial with Teflon®-lined septum and equilibrated overnight at 72° F. One-half ml headspace was removed from the vial by puncturing the septum with a 1 ml gas-tight Pressure-Lok® Precision Sampling Corporation syringe.

2. Headspace Analysis

The organic features present in the headspace in equilibrium with the neat fuels were analyzed, using the same capillary GC/FID instrumental method described in Reference 1 for the neat fuel analysis. An external standard quantitation method was calibrated, using a calibration gas mixture composed of helium which contained 1000 ppm methane, ethane, propane, butane,

pentane, and hexane. This standard was obtained from the Matheson Gas Company. Peak areas of all headspace features were compared to the peak areas of the components present in this analyzed standard. The LAS integration method used for the determination of concentrations of vapor phase features is shown in Table 3. All feature numbers shown in this table which are greater than 297 were below the level of detection for the neat fuels analysis shown in Reference 1, but, due to their high volatility, are present in the vapor phase at measurable concentrations. These additional features were arbitrarily assigned numbers greater than 297 to distinguish them from the original features present in the neat fuel and to provide statistical information on feature variability.

C. CALCULATION OF WATER-SOLUBLE AND VAPOR-PHASE CONCENTRATIONS

As in the case of the neat fuels analysis, the measurement of all feature concentrations in the water-soluble studies assumed that feature responses were equal to the anthracene-d10 response. Therefore, the absolute amount of anthracene-d10, which was co-injected with each carbon disulfide sample extract, was used (after correcting for sample and extract volumes) to calculate feature weights/water volume. All water-soluble data are, therefore, given in units of μg/liter (μg/l). Levels of detection for the water-soluble feature analysis using the Master Method shown in Table 2, are approximately 10 μg/l.

The vapor phase analysis, however, could not rely on an internal standard analysis approach due to interferences which could have been encountered with volatile internal standards chosen in addition to the difficulty of quantitatively adding an internal standard and possibly adversely affecting the equilibrium of the liquid phase which was in contact with the vapor phase of the fuel. Therefore, an external standard technique was chosen for quantitation. This required the use of a gas standard which contained approximately 1000 ppm methane, ethane, propane, butane, pentane, and hexane. This gas standard was prepared by Matheson Gas Company on a volume/volume basis. Therefore, 1000 ppm refers to the mole fraction (MF) concentration of each of these normal hydrocarbons in the helium diluting gas. The levels of detection for vapor-phase features using the Master Method shown in Table 3, are approximately 0.5 ppm-MF.

All absolute concentrations determined in the vapor-phase studies are based upon comparison of the areas of the C1 through C6 hydrocarbons in the Matheson gas standard with the areas of all features in the vapor phase in equilibrium with the neat fuel. All features other than ethane, propane, butane, and pentane were assumed to have the same response factor as the C6 response from the gas standard analysis. This assumption was made since the neat fuels analysis showed that the response factors of C6 through C20 in the analysis of a quantitative standard did not vary by more than approximately 15 percent. However, to determine the vapor-phase concentrations in more useful units, several assumptions must be made.

The first assumption is that the helium diluting gas of the gas standard has similar gas properties as the vapor phase above the neat fuels. The same volume (0.5 ml) of standard and vapor phase was injected using 1 ml gas-tight syringes and the gas standard was at atmospheric pressure. The vapor phase above the neat fuel was also assumed to be at atmospheric pressure. A second assumption is that, on a weight basis, all features other than ethane, propane, butane and pentane have the same response factor as hexane. As mentioned above, this was shown to be true in the neat-fuels analysis for C6 - C20. This assumption is probably not true for the features below C6 and not present in the gas standard, but these comprise a minor amount of the total vapor phase composition, and therefore incorrect response factors will not greatly affect the overall results. These two assumptions result in the following relationships:

$$\begin{pmatrix}\text{Feature Concentration in units} \\ \text{of } \mu g \text{ methane and ethane/1 vapor phase}\end{pmatrix} = C2 \times \begin{pmatrix}\text{Feature Concentration in unts} \\ \text{of ppm-MF}\end{pmatrix} \quad (1)$$

where C2 = (46 g/mole for methane and ethane) x 10(-6) moles/mole helium
= 46x10(-6)grams/(22.4 liters) = 2.054 µg/liter

and;

$$\begin{pmatrix}\text{Feature Concentration in units} \\ \text{of } \mu g \text{ propane/1 vapor phase}\end{pmatrix} = C3 \times \begin{pmatrix}\text{Feature Concentration in units} \\ \text{of ppm-MF}\end{pmatrix} \quad (2)$$

where C3 = (44 g/mole for propane) x 10(-6) moles propane/moles helium
= 44x10(-6)grams/(22.4 liters) = 1.964 µg propane/liter

and;

$$\begin{pmatrix}\text{Feature Concentration in units of } \mu g \text{ butane/1 vapor phase}\end{pmatrix} = C4 \times \begin{pmatrix}\text{Feature Concentration in units of ppm-MF}\end{pmatrix} \quad (3)$$

where C4 = (58 g/mole for butane) x 10(-6) moles butane/moles helium

= 58x10(-6)grams/(22.4 liters) = 2.589 µg butane/liter

and;

$$\begin{pmatrix}\text{Feature Concentration in units of } \mu g \text{ pentane/1 vapor phase}\end{pmatrix} = C5 \times \begin{pmatrix}\text{Feature Concentration in units of ppm-MF}\end{pmatrix} \quad (4)$$

where C5 = (72 g/mole for pentane) x 10(-6) moles pentane/moles helium

= 72x10(-6)grams/22.4 liters) = 3.214 µg pentane/liter

and;

$$\begin{pmatrix}\text{Feature Concentration in units of } \mu g \text{ hexane/1 vapor phase}\end{pmatrix} = C6 \times \begin{pmatrix}\text{Feature Concentration in units of PPM-MF}\end{pmatrix} \quad (5)$$

where C6 = (86 g/mole for C6) x 10(-6) moles/mole helium

= 86x10(-6)grams/(22.4 liters) = 3.84 µg/liter

The above constants (C2, C3, C4, C5 and C6) must be used to convert the concentrations of ethane, propane, butane, pentane and hexane, respectively, from ppm-MF to µg/1 vapor phase. All other features used the C6 response factor for ppm-MF of hexane. Therefore, no molecular weight correction, other than that shown in Equation (5), should be used. For all features other than ethane, propane, butane, pentane and hexane, the following relationship must be used:

$$\begin{pmatrix}\text{Feature Concentration in units of } \mu g \text{ feature/1 vapor phase for all other Features}\end{pmatrix} = C6 \times \begin{pmatrix}\text{Feature Concentration in units of ppm-MF hexane for all other Features}\end{pmatrix} \quad (6)$$

where C6 = 3.84 µg/liter

To summarize: <u>all</u> feature concentrations in all tables which report concentrations of vapor-phase features in distillate fuels headspace samples are in units of ppm-MF. To change these units to the more useful units of µg feature/

liter headspace, Equations (1) through (6) must be used for each feature for which this unit conversion is required. An example of this conversion will be given in Section III.D.

SECTION III

RESULTS AND DISCUSSION

As was the case for the neat-fuels analyses reported in Reference 1, a detailed file-naming convention was used for the various files produced for the water-soluble and vapor-phase feature variability studies reported in this report. Table 4 summarizes these naming conventions as they apply to the present study.

All data summarized in this section represent only a small fraction of data generated for this final report. Therefore, data packets were prepared for each water-soluble and vapor-phase feature analysis of each fuel studied. These data packets are organized as described in Reference 1 (Section III.B) and shown in Volume III of Reference 1. In addition, all raw and process data files, along with all methods, sequences and programs used for data analysis for the study described in Reference 1 and the present report, have been supplied to the Air Force on CS-80 cartridge tapes, compatible with Air Force computer systems.

A. DATA BASE MANAGEMENT SYSTEM

The Monsanto Company Data Base Management System (MC DBMS) was used for the correlation of data from the analysis of water-soluble and vapor-phase features of distillate fuels. A complete description of this system is given in Reference 1. The present description is given for those elements used to output variability data obtained in the present study. The MC DMBS used Hewlett-Packard IMAGE-1000 subroutines to store and correlate all named features in processed data files in a given data base. Feature names, feature concentrations, feature Kovats Indices/10, sample names, processed file names and total concentrations were stored in the data bases. Programs were used to add, subtract, and summarize all of the above parameters for a given data base. The data base size was designed for inclusion of up to 500 different features in 500 discrete samples. In practice, the MC DBMS actually was developed for use with a number of discrete data bases. Separate data bases were assembled to meet the requirements of various studies. Data bases were used to correlate

data from duplicate analyses of each water extract or each vapor-phase sample, from replicate water extract and vapor phase samples, and all data from the analyses of petroleum-derived JP-4 fuels. This latter data base consisted of over 50 fuels, each analyzed in duplicate. Various types of data correlation programs were used for specific tyes of output. The following paragraphs describe the outputs used to summarize various data bases.

· REP8. Program outputs all data present in a given data base. REP8 orders the output by the first four characters in the sample name.

· REP6. Program statistically summarizes the concentration values for each feature. The output shows the feature name, feature concentration average, feature concentration range, feature concentration standard deviation, and the number of processed data files in which that feature was detected. The units of the concentration are given in the data base title.

· REP7. Program statistically summarizes the Kovats Index values for each feature. The output shows the feature name, feature Kovats Index average feature Kovats Index range, feature Kovats Index standard deviation, feature Kovats Index percent relative standard deviation, and the number of processed files in which that feature was detected. Units are in Kovats Index units.

· REP4. Program summarizes the feature concentration distributions as REP6 but also provides a visual histogram display of the concentration distribution for each feature. This display shows the number of times that each feature was detected in a predetermined concentration interval. The total number of intervals is determined at the time of data output, and REP4 shows the number of times that a concentration value occurs between the "LOW VALUE" and "HIGH VALUE" for the number of intervals specified. The actual concentration intervals are determined from the RANGE of concentrations values, the lowest and highest concentration values in the range, and the number of intervals selected. This output requires one page per feature and this was supplied under separate cover.

• REP5. Program summarizes the feature Kovats Index distribution as REP7, but also provides a histogram display of the Kovats Index distribution for each feature similar to that in REP4. This output also requires one page per feature and thus was supplied under separate cover.

B. WATER-SOLUBLE FEATURES

Analysis of water-soluble feature concentrations involved equilibration of the neat fuel with water, followed by the extraction of an aliquot of the equilibrated water with carbon disulfide, followed by capillary GC/FID analysis of a 50/50 mixture of the carbon disulfide extract and an anthracene-d10 standard in carbon disulfide. Since the concentrations of the distillate fuel features in the equilibrated water samples are at least four orders of magnitude lower than the concentrations of these features in the neat fuel, all of these analyses were conducted at very near the detection limit of the instrumentation used for this study. In addition, impurities in the extraction system, the carbon disulfide solvent, the anthracene-d10 internal standard solution, and the GC/FID chromatographic system must be minimized to accurately quantify water-soluble distillate fuel features.

Several quality control steps were taken to produce the highest quality data possible. These steps included the analysis of: (1) all samples in duplicate, (2) solvent blanks, (3) method blanks, and (4) replicate analyses of the reference fuel, diluted 1000 times. These results, along with the results obtained from analysis of the water-soluble features in over 50 distillate fuel samples, will be discussed.

1. Quality Control Results

The results of analyses of 10 replicate carbon disulfide solvent samples and 10 replicate method blank samples which consisted of deionized water with no fuel added, showed that no impurities originated from laboratory glassware or from contamination due to the sample handling procedures shown in Table 1. The results of duplicate method blank analyses are shown in one of the data packets supplied under separate cover.

To properly identify features present in equilibrated water samples, the reference JP-4 fuel (Number 607) was diluted 1000 times and several types of analyses and studies were conducted. Figure 1 shows an expanded chromatogram on which feature numbers have been placed. These feature numbers correspond to the feature numbers shown in the water soluble method shown in Table 2. They also correspond to the feature numbers used in the neat fuels study reported in Reference 1.

Two mls of this standard were equilibrated with 40 mls deionized water overnight in order to simulate the extraction phase of the water analysis scheme shown in Table 1. Figure 2 compares chromatograms obtained from the analysis of the diluted standard and the diluted standard which was equilibrated with water overnight. The almost identical chromatograms obtained in these two analyses show that for the major components of the JP-4 reference fuel, the partition coefficients and extract to water volumes are such that over 90 percent of the organic components which would be in an equilibrated water sample, should be extracted using 2 mls of carbon disulfide and 40 mls water. Table 5 shows the REP6 output of 10 replicate analyses of JP-4 reference fuel diluted 1000 times and Table 6 shows the REP6 output of 10 replicate diluted JP-4 reference fuel samples which have been equilibrated with water overnight. These tables show typical precision of analysis of distillate fuel components which are at concentration levels similar to those found in the equilibrated carbon disulfide extract.

To compare the results shown in Tables 5 and 6 with those from the neat-fuels analyses reported in Reference 1, a summary table (Table 7) was prepared which only shows results of the normal hydrocarbon concentrations from Reference 1 and Tables 5 and 6. These results show that the reported concentrations of the diluted JP-4 Reference Fuel (corrected for the 1000 dilution) are within experimental error of those reported for the neat fuel in Reference 1. The concentrations for the diluted JP-4 fuel which had been equilibrated overnight with water, show approximately a 20 to 30 percent increase in all normal hydrocarbon concentrations. This is probably due to the slight solubility of the carbon disulfide in water which causes the volume of the added 2 ml of carbon disulfide with the diluted JP-4 fuel, to be reduced by approximately 20 to 30 percent.

2. Data Base Output of Water Soluble Features

a. Petroleum-Derived JP-4 fuels

An estimate of the precision of analysis of replicate Reference Fuel Samples (Number 607) can be obtained from Tables 8 - 10. Table 8 shows the REP6 output of a data base containing 18 replicate extractions and analyses of the Reference Fuel in units of μg/1. Table 9 shows the REP6 output of a similar data base, in units of %REL (relative to the Reference JP-4 water equilibrated fuel) and Table 10 shows the REP7 output of the same data base in units of KI (Kovats Index). In all water soluble feature tables, the low normal hydrocarbon solubilities required other, nonhydrocarbon features to be used for calibration of the Kovats Index scale. All features in Table 10 for which percent relative standard deviations of 0.00E+00 are measured, have been used as Kovats Index calibration points. These features include Impurity Number 1, n-butane, n-pentane, n-hexane, Feature Number 23, n-heptane, Feature Number 50, n-octane, Feature Number 91, n-nonane, Feature Number 144, Feature Number 170, Feature Number 193, Feature Number 253, Feature Number 281, and Impurity Number 8. From Tables 21 through 28 in Reference 1, the above non-n-hydrocarbon features correspond to the following compounds: Number 23 - benzene, Number 50 - toluene, Number 91 - dimethylbenzene isomer, Number 144 -trimethylbenzene isomer, Number 170 - ethyldimethylbenzene isomer, Number 193 - tetramethyl benzene isomer, Number 253 - 2-methylnaphthalene, and Number 281 - dimethylnaphthalene isomer. All of these non-n-hydrocarbon compounds are either benzene, substituted benzenes, or substituted naphthalenes and are known be much more water-soluble than the n-hydrocarbons. One change in the water-soluble feature analysis protocol, which would improve the precision of future water-soluble feature concentration studies, would be to use the splitless capillary chromatographic injection technique, and exclude any components which elute before the carbon disulfide solvent. This would increase the level of detection of the water-soluble components by approximately two orders of magnitude, and result in more precise determinations of water-soluble feature concentrations. It would also permit the use of n-hydrocarbons to calibrate the Kovats Index scale, and simplify this portion of the analysis protocol.

Tables 11 - 13 show data base outputs for water-soluble features in 53 petroleum-derived JP-4 fuels. Table 11 is the REP6 output which shows all values in units of μg/1; Table 12 is the REP6 output which shows all values

in units of %REL (relative to the Reference JP-4 water equilibrated fuel); and Table 13 is the REP7 output which shows all values in units of KI (Kovats Index).

b. Petroleum-Derived JP-5 and Shale-Derived JP-4 Fuels

Tables 14 - 17 show REP6 outputs of data bases which contain duplicate analyses of a petroleum-derived JP-5 and shale-derived JP-4 fuel. Tables 14 and 15 show these outputs in units of µg/l and %REL, respectively, for the petroleum-derived JP-5 fuel, and Tables 16 and 17 show these outputs in units of µg/l and %REL, respectively, for the shale-derived JP-4 fuel.

c. Comparison of Petroleum-Derived JP-4 and JP-5 Fuels with Shale-Derived JP-4 Fuel

Table 18 gives a summarizes of percentage Named Peaks and percentage of Concentration of Named Peaks quantified in all petroleum-derived and shale-derived fuel samples. Comparison of these values for the petroleum-derived JP-4 fuels, with the petroleum-derived JP-5 fuel and the shale-derived JP-4 fuel do not show any significant trends. Therefore, a data base was constructed which contained one Reference JP-4 fuel analysis, one petroleum-derived JP-5 fuel analysis and one shale-derived JP-4 fuel analysis. The REP8 output of this data base is shown in Table 19. This table shows very clearly that significant differences exist between these three types of water-equilibrated samples. Many of the features between Feature Numbers 1 and 117 are missing in the water-equilibrated petroleum-derived JP-5 fuel and the total concentration of water-soluble features of the JP-5 fuel is approximately 20 percent of the water-soluble features in water equilibrated petroleum- and shale-derived JP-4 fuels. The shale-derived JP-4 total concentration is also about 40 percent of the petroleum-derived JP-4 fuel.

Table 20 compares selected feature concentrations measured in this study with those measured in Reference 2. These four compound concentrations measured in the present study agree within 25 percent of those measured in Reference 2. Literature solubility data and concentrations in the neat fuel which were determined in Reference 1 are also shown in this table.

C. GAS PHASE FEATURES

1. Quality Control Results

Since the determination of variability of vapor phase features used an external standard quantitation method, the types of quality control experiments were different from those described above for the water-soluble feature analyses. No internal standard was added to the vapor-phase sample before injection into the GC/FID system, therefore, data quality was assessed by comparing the results of duplicate vapor-phase feature analyses. In addition, the gas standard used for quantitation was analyzed once for every six vapor-phase injections and the amounts of the C2 through C6 components were monitored daily. When these absolute amounts deviated from the correct values by more than + or - 20 percent corrective action was taken. This corrective action was typically diagnosed as requiring the use of a new gas-sampling syringe, due to syringe wear. A new syringe was required after approximately every 10 injections. In addition, the septum of the gas chromatograph was changed approximately every 15 injections.

Duplicate analyses of a given fuel occurred on the same day and duplicate 40 ml vials were prepared for each fuel so that the septum was punctured only once for each analysis. When the total amount of components in the vapor-phase duplicate analyses varied by greater than 30 percent, corrective action was taken. This corrective action was also typically diagnosed as requiring the use of a new gas-sampling syringe or a change of septum.

In addition to the 1000 ppm standard used for external standard calibration, 100 and 10 ppm standards were also obtained from the Matheson Gas Company and were used to show linearity of the analytical system. The REP6 outputs for data bases of replicate 1000, 100, and 10 ppm are shown in Tables 21 through 23. With the exception of the propane average concentration in the 1000 ppm standard, all Percent Relative Standard Deviations for the C2 - C6 hydrocarbons in these three standards were on the order of 10 percent. The REP8 output of the data base containing five replicate 1000 ppm standard analyses is shown in Table 24 and it can be seen that the value for propane in DFP001 caused the average value of this data base to be low. Exclusion of this one

point would cause the percent Relative Standard Deviation for this one compound to be on the order of 10 percent.

Seven replicate analyses of the Reference Fuel (Number 607) were placed in a data base and the REP6, REP7, and REP8 outputs are shown in Tables 25 - 29. The external standard quantitation method shown in Table 3 was used to name all features in this sample. Figure 4 shows an expanded chromatogram from the vapor-phase analysis of the Reference Fuel on which the Feature Numbers have been placed. Note that all features with numbers greater than 297 were not present in the neat fuels analysis reported in Reference 1. Figure 5 shows the chromatogram obtained from the GC/MS analysis of vapor-phase features using the GC/MS analysis method reported in Reference 1. Feature Numbers 1, 2, 10, and 11 were identified from their mass spectra as n-propane, 2-methylpropane, 1-pentene and 2,3-dimethylbutane, respectively. All other features with numbers greater than 297 could not be unequivocally identified from their mass spectra.

2. Data Base Output of Vapor Phase Features

Tables 29 - 31 summarize results of vapor phase feature analyses for 55 petroleum-derived JP-4 fuels. Units of Tables 29 and 30 are ppm-MF and %REL, respectively, and units of Table 31 are Kovats Index. Tables 32 and 33 show REP8 outputs of a data base which contain duplicate analyses of the petroleum-derived JP-5 and shale-derived JP-4 fuels. Units of Table 32 are ppm-MF and units of Table 33 are %REL. Table 34 summarizes the Percentage Number of Peaks Named and Percentage Concentrations of Peaks Named in duplicate analyses for vapor-phase feature analyses of all fuels.

D. EXAMPLE OF THE USE OF TABLES FROM REFERENCE 1 AND THE PRESENT REPORT

The present section is designed to demonstrate how variability data can be obtained for selected features using information in Reference 1 and the present report. All REP6 and REP7 data base outputs shown in Reference 1 and the present report were designed to give information on the variability of Air Force distillate fuel features. The outputs shown in Reference 1 show the variability of neat fuels features and the outputs shown in the present report show variability of water-soluble and vapor-phase features. The REP6 outputs show variability data on the quantity of features present and REP7

outputs show variability data concerning the Kovats Indices determined for each feature. This latter output is designed to show the variability of Kovats Index for each feature and is thus a measure of the uniqueness of the Kovats Index for the qualitative identification of a given feature.

Both of these outputs show the feature concentration and feature Kovats Index average, the range of feature values, standard deviation of feature values, percent relative standard deviation of feature values and the number of samples in which each feature was detected. The standard deviation and the percent relative standard deviation is only meaningful for a gaussian-type distribution. In order to evaluate whether or not the feature distribution is gaussian, and thus, whether standard deviation and percent relative standard deviation calculations are valid, the REP4 and REP5 outputs are supplied (under separate cover). These outputs graphically show a histogram of the feature distribution and are thus designed to quickly and accurately evaluate how the relative standard deviation and percent relative standard deviation should be used. In general, approximate gaussian distributions were measured for most major features in the neat fuel, water equilibrated with the neat fuel, and headspace above the neat fuel.

REP6 and REP7 outputs which can be used to transmit quality control information, are shown in Reference 1. Therefore, in order to judge whether the variability of a specific feature is due to a sample analysis variability or is actually due to the variability of the concentration of that feature in the neat fuel, water equilibrated with the neat fuel, or headspace over the neat-fuel, REP6 and REP7 outputs of data bases containing replicate analyses of the Reference JP-4 Fuel (Number 607) should be compared with the same outputs of the data base of interest. In general, most major features in the Reference JP-4 Fuel showed percent percent relative standard deviations on the order of 10 percent on REP6 outputs of data bases which contained replicate analyses of the Reference Fuel and most major features for over 50 petroleum-derived JP-4 fuels showed percent relative standard deviations greater than 50 percent on REP6 outputs of those data bases. Therefore, feature variability, as measured by the percent relative standard deviation of features in various data bases,

actually reflect the variation in concentration of those features in the neat-fuels, water equilibrated with the neat fuels, and headspace over the neat fuels. Examples will be given in the following paragraphs which demonstrate where various types of variability data can be found in Reference 1 for benzene, toluene, naphthalene and n-heptane.

First, the feature numbers and Kovats Indices for these four compounds can be found in Tables 21 - 28 of Reference 1. Table 21 shows that benzene is Feature Number 23 (KI = 658.8) and n-heptane is Feature Number 31 (KI = 700.0). Table 22 shows that toluene is Feature Number 50 (KI = 758.8) and Table 25 shows that naphthalene is Feature Number 217 (KI = 1170.4). From this information, various types of information can be obtained for these compounds.

Tables 35 - 37 show the types of information and where this information is located for these four compounds and for the total concentrations of compounds in the neat fuels, water equilibrated with the neat fuels, and vapor phase equilibrated above the neat fuels. Table 35 summarizes results from Reference 1. Table 36 summarizes water-soluble results from this report. The method blank data supplied under separate cover shows that there is approximately 740 µg/l benzene present in the method blank. This is due to a small impurity of benzene which is a stabilizer for the carbon disulfide extracting solvent. However, this concentration is more than 10 times smaller than the amount measured in the water samples which have been equilibrated with the neat fuels. Therefore, the data shown in Table 36 need no correction for this benzene impurity. However, the method blank data should be compared with data from water-equilibrated fuels in order to be certain that the feature under study is not present at significant levels in the method blank. The results in Table 36 show that benzene and toluene, which are much more water-soluble than normal alkanes, are present at approximately 100 times the concentration of n-heptane in the water-soluble feature analyses, while the benzene/n-heptane ratio in the neat Reference JP-4 Fuel is approximately 0.04 and the toluene/n-heptane ratio is approximately 0.33. If the fuel and water volumes shown in Table 1 are used to study the material balance of benzene in water-equilibration studies, it can be calculated that the 4 mls fuel, which is added to the 400 mls water in the water-equilibration study, contains 3.64 mg/ml x 4 mls = 14.6 mg total benzene. The

concentration of 1.34 X 10(4) ug/l benzene (in the 0.40 l water used in the water equilibration study) accounts for 5.36 mg benzene. The fact that these two values (14.6 mg benzene in the fuel and 5.36 mg in the water-equilibrated fuel) are very similar, means that over 30 percent of the benzene in the fuel partitions completely into the water phase. A similar calculation for toluene results in 34 mg toluene in the 4 mls fuel and 3.8 mg total toluene in the 0.40 l water equilibrated with the fuel. This indicates that approximately 10 percent of the toluene, originally present in the neat fuel, partitions into the water phase during water equilibration. These results are consistant with the known very high solubility of benzene in water and the lower solubility of toluene in water.

The vapor-phase feature concentrations shown in Table 37 have been converted from ppm-MF to µg/l, using Equation (6). Although it is not exactly correct to make this conversion for the total concentration value given at the end of the table, the error introduced would be less than 10 percent of the estimated error of the determinations shown in the table. Table 37 shows a benzene/n-heptane ratio of approximately 0.4 which is one order of magnitude greater than the neat-fuels analysis results shown in Table 35. This increased ratio is due to the higher volatility of benzene which causes its vapor-phase concentration, relative to n-heptane to be larger than its neat fuel concentration. Similarly, the toluene/n-heptane ratio of 0.25, shown in Table 37, is lower than the ratio of 0.34 shown in Table 35 for the same reason.

Similar data comparisons can also be made for petroleum-derived JP-5 and shale-derived JP-4, using appropriate tables in Reference 1 and the present report. In addition, many other correlations can be made for many of the major components in aircraft distillate fuels. However, to efficiently make these correlations, the data bases which have been assembled could be used as input data for multivariate statistical data processing approaches which are beyond the scope of the present project. In addition, properties of these fuels, such as engine wear, Smoke Number, corrosivity, flash point, density, etc., could also be added to the data bases to statistically evaluate what compounds or what classes of compounds may be producing effects of interest

to Air Force operations. From these types of data correlation programs, procurement specifications can be written to minimize or maximize certain compounds or classes of compounds which result in the desired effects.

The data shown in Reference 1 and the present report also contain very important information which would be invaluable in modeling environmental effects of JP-4 and JP-5 spills. Since the REP8 outputs of all data bases, which show concentrations of all major organic features for all fuels, have also been supplied to the Air Force (under separate cover), all important experimental information is available which would be required to model water solution and vaporization of these fuels. Therefore, such parameters as partition coefficients, individual component solubilities, heats of vaporization, other vaporization data, etc., could be used in conjunction with the data in Reference 1.

Since neat fuel, water and vapor phase concentrations are known from these studies, the validity of various models could easily be assessed. Depending upon the success of these initial studies, models could also be developed to study the movement of distillate fuel features in various types of soils or other environmental systems. This last type of modeling study would require additional experimental determinations, similar to those reported in the present study, to validate the model. However, the experimental methods developed in Reference 1 and used in this study could easily be adapted to study movement of distillate fuel features in the environment.

SECTION IV

CONCLUSIONS AND RECOMMENDATONS

A. CONCLUSIONS

The following general conclusions can be drawn from this study:

1. The ability of the automated GC/FID laboratory data system to identify fuel features and generate precise Kovats Indices is very good.

2. Typical values for percent relative standard deviations of Kovats Indices for the 300 features in all of the JP-4 fuels data bases were in the 10(-2) to 10(-1) range. For the n-C10-ane region, this corresponds to a Kovats Index range of 0.1 to 1.0 KI unit. The n-C10-ane component elutes at a feature retention time of 54 minutes, and the value of 10(-2) to 10(-1) for percent relative standard deviation corresponds to a standard deviation of 0.005 to 0.05 minutes. This type of precision is not unusual from injection to injection; however, the fact that these values were obtained for a set of samples analyzed over a 6- to 8-week period shows the extent to which the present analysis protocol and capillary chromatographic instrumentation can be used to provide long-term stability in analyzing complex mixtures. This good stability is primarily due to the fact that the normal hydrocarbons, which are used to calibrate the Kovats Index scale, are present in all neat fuels, water equilibrated with the neat fuels, and vapor phase above the neat fuels.

3. The ability of the automated GC/FID laboratory data system to reproducibly quantify the identified fuel features is very good. Better precision can be obtained for the water-soluble features, at the expense of the early eluting features, by using the splitless capillary injection technique. This would increase sensitivity by approximately 100 times for water-soluble feature analyses. However, all features before the carbon disulfide solvent could not be analyzed using this approach.

4. For the 18 replicate water-soluble analyses, and seven vapor phase analyses, the percent relative standard deviation of the major feature concentrations was approximately 20 percent for the major features. However, this value is dependent upon feature concentration. Improvement of signal/noise

ratio for the water-soluble features would increase the number of features for which low percent relative standard deviations were measured.

5. Significant variabilities were found in the concentration of individual features (i.e., in the composition of individual fuels).

6. The Reference JP-4 Fuel chosen for this study appears to be a good qualitative standard for the petroleum-derived JP-4 fuels.

7. Because the variability of fuel features by automated GC/FID analysis is highly reproducible with respect to Kovats Index and concentration, and because feature variabilities correlate well with specific compound variabilities as measured from GC/MS analyses (measured in Reference 1), the automated GC/FID system provides a relatively inexpensive and reliable alternative to GC/MS analysis for measuring component variability in fuels. This information may be used to establish correlations between fuel component concentrations and specific fuel properties.

B. RECOMMENDATIONS

Based on the results of this study, the following recommendations are offered:

1. The method of automated identification and quantitation of GC/FID features developed in this program should be used industry-wide to characterize the petroleum-derived distillate fuels being supplied to the Air Force.

2. Each supplier of distillate fuel should provide, with each lot of fuel, an analytical report of the type presented in this report. The suppliers' reports would serve as ongoing documentation of the composition of the fuels and would therefore be a valuable quality control feature.

3. The approach of chemical feature identification should be exploited to the fullest to improve the physical properties and performance characteristics of the fuels.

4. The specific chemical components of the fuels, and the relative amounts of each component, are the major factors determining many characteristics of the fuel. Such gross properties as engine performance, engine wear, fuel storage problems, environmental pollution, and many other concerns must be related to the individual components in the fuel. To correlate gross properties with specific fuel components, factor analysis (pattern recognition)

should be used. The variabilities in gross properties of interest should be examined for correlations with the variabilities in feature concentrations, to find which features enhance desired characteristics or exacerbate problems. Multidimensional factor analysis has proven to be an extremely powerful tool in revealing key factors in very complicate environmental and medical problems, and it should prove equally valuable in this situation. Other data, such as infrared spectrum profiles, could be combined with the feature variability information to yield additional opportunities for correlations.

5. The method of automated feature identification and quantitation developed in this study should be used from the outset to evaluate all shale-derived fuels that are proposed as substitutes for the petroleum-derived fuels.

6. The data presented in this report and in Reference 1 should be used as an important data base for modeling the environmental fate of distillate fuels from the leaking of underground storage tanks and from routine Air Force operations. The quantities of distillate fuels bought, transported, stored and used by the Air Force should make this final recommendation one of the most important.

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2. Smith, J. H., Harper, J. C., and Jaber, H., Analysis and Environmental Fate of Air Force Distillate and High Density Fuels, AD-A115-947, Air Force Engineering and Services Center, Tyndall AFB, Florida, 1981.

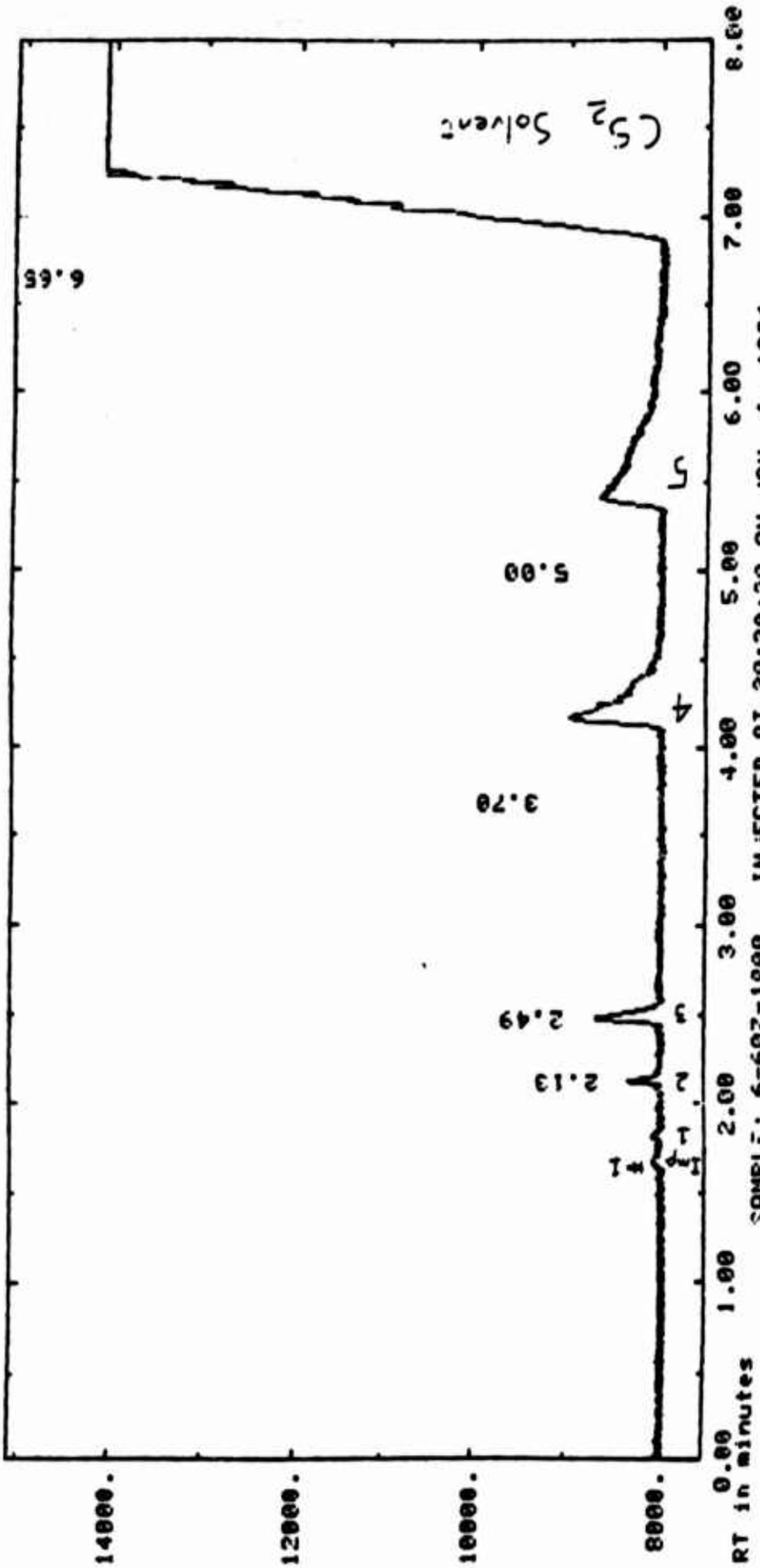
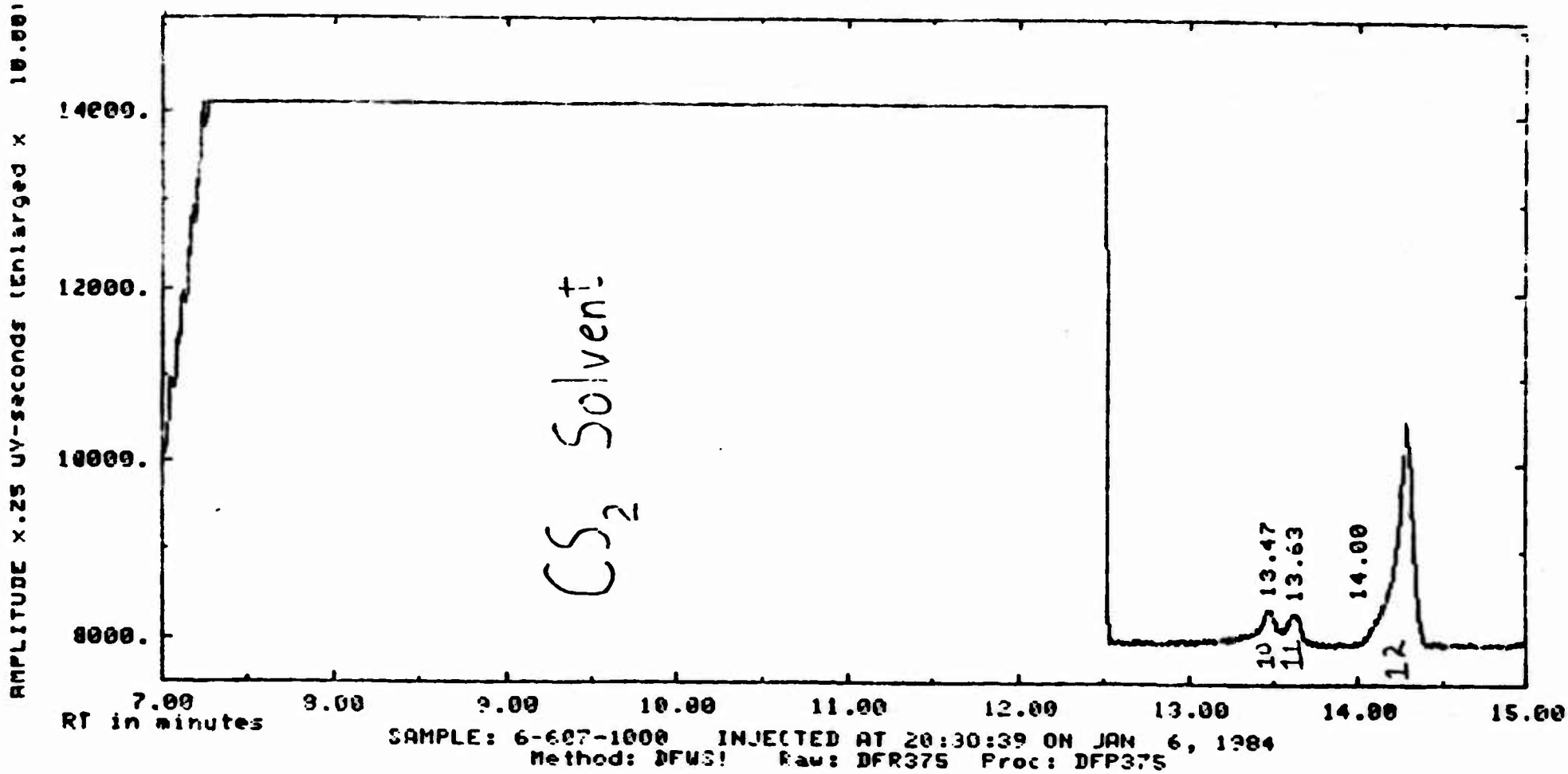


Figure 1. Feature Identifications for the Reference JP-4 Fuel (Number 607).



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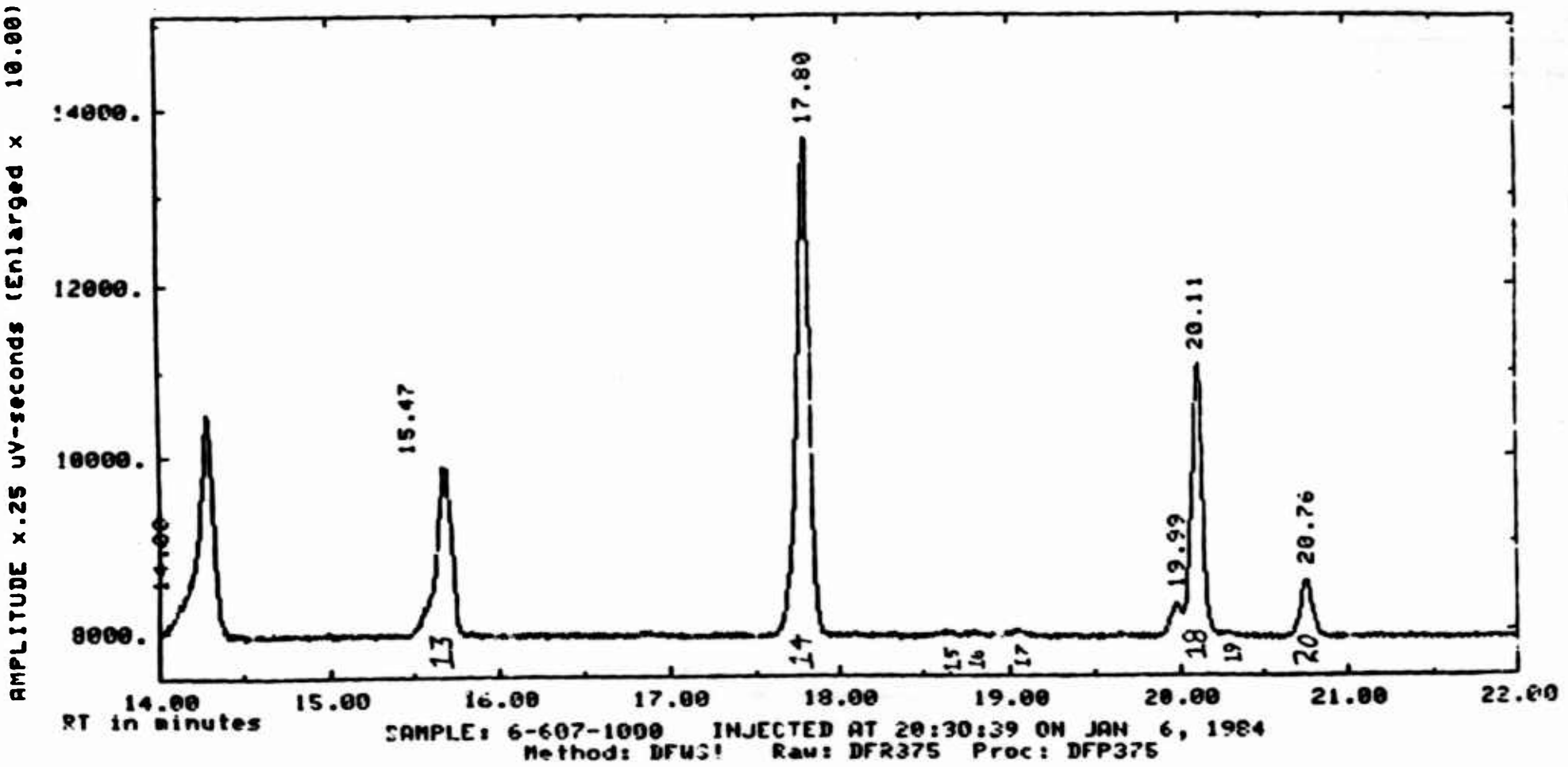

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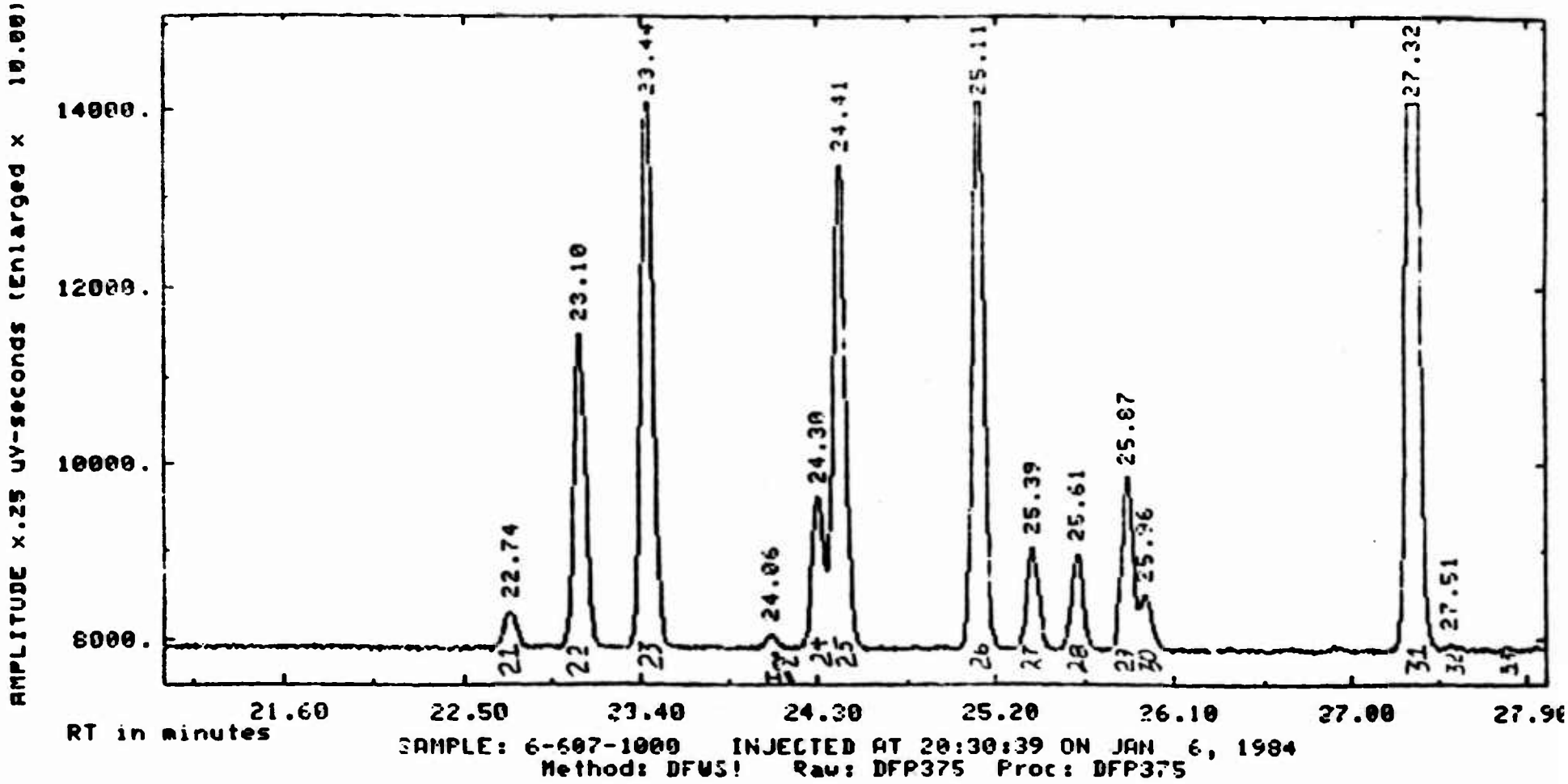

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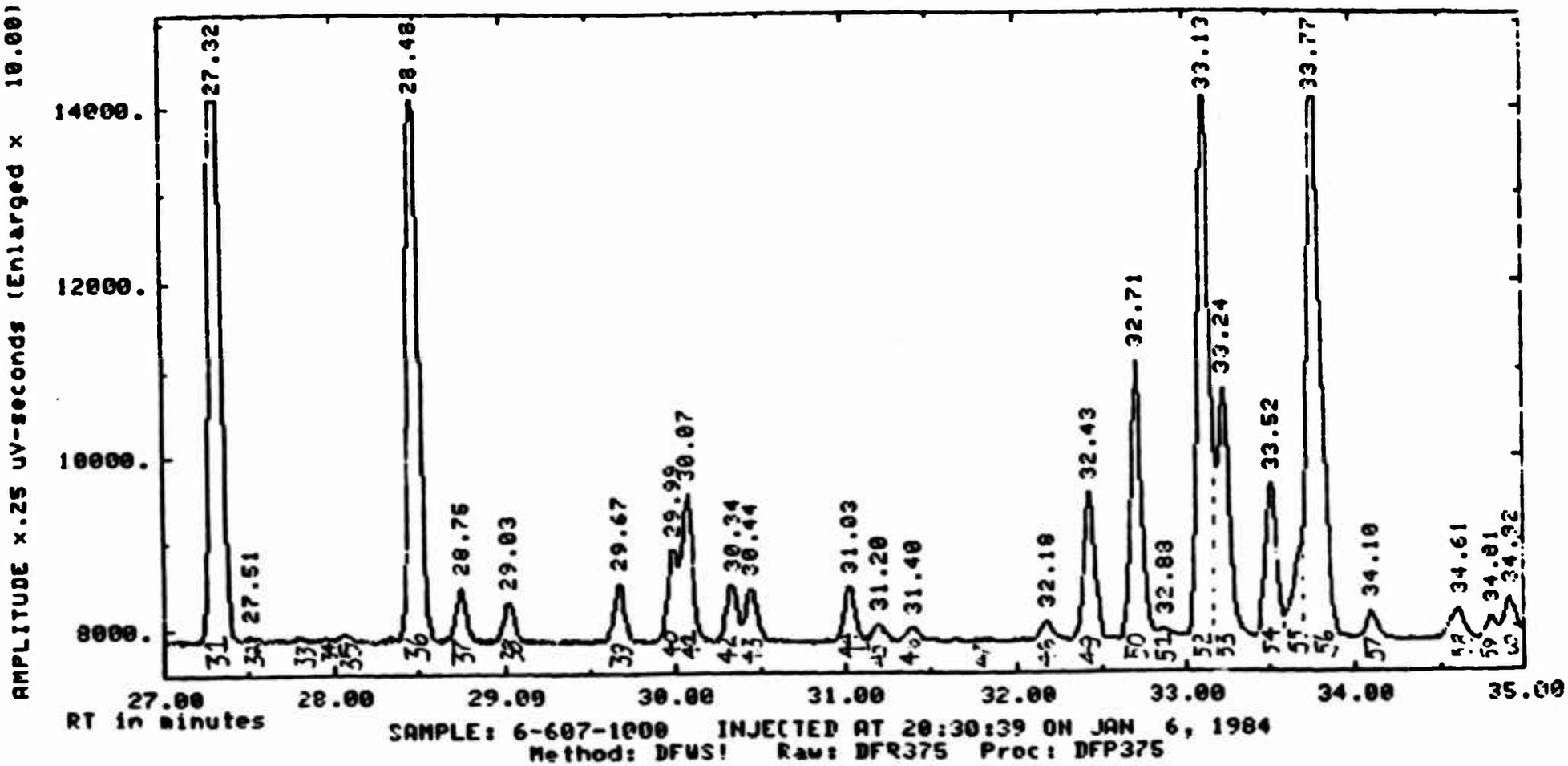

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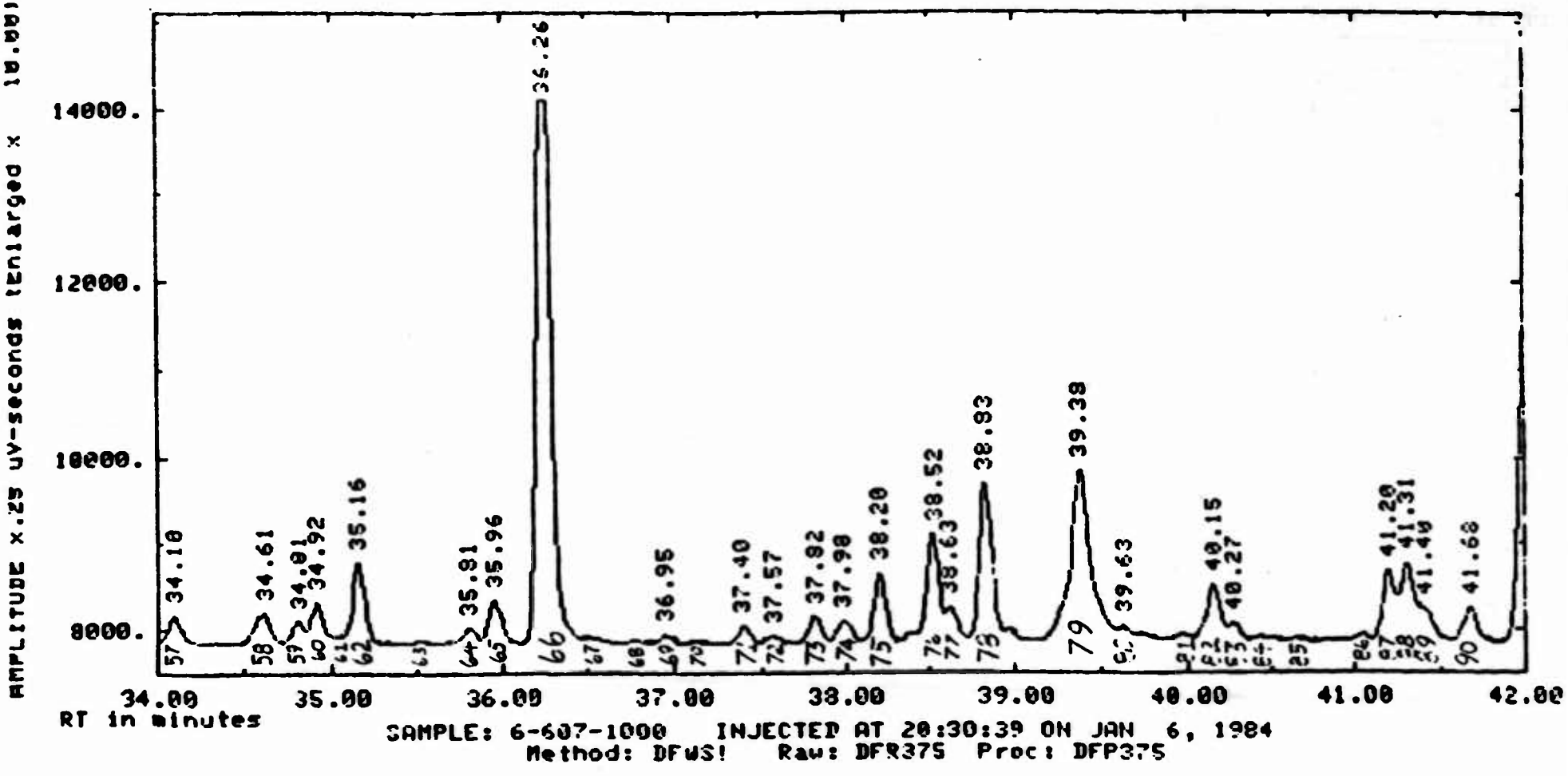

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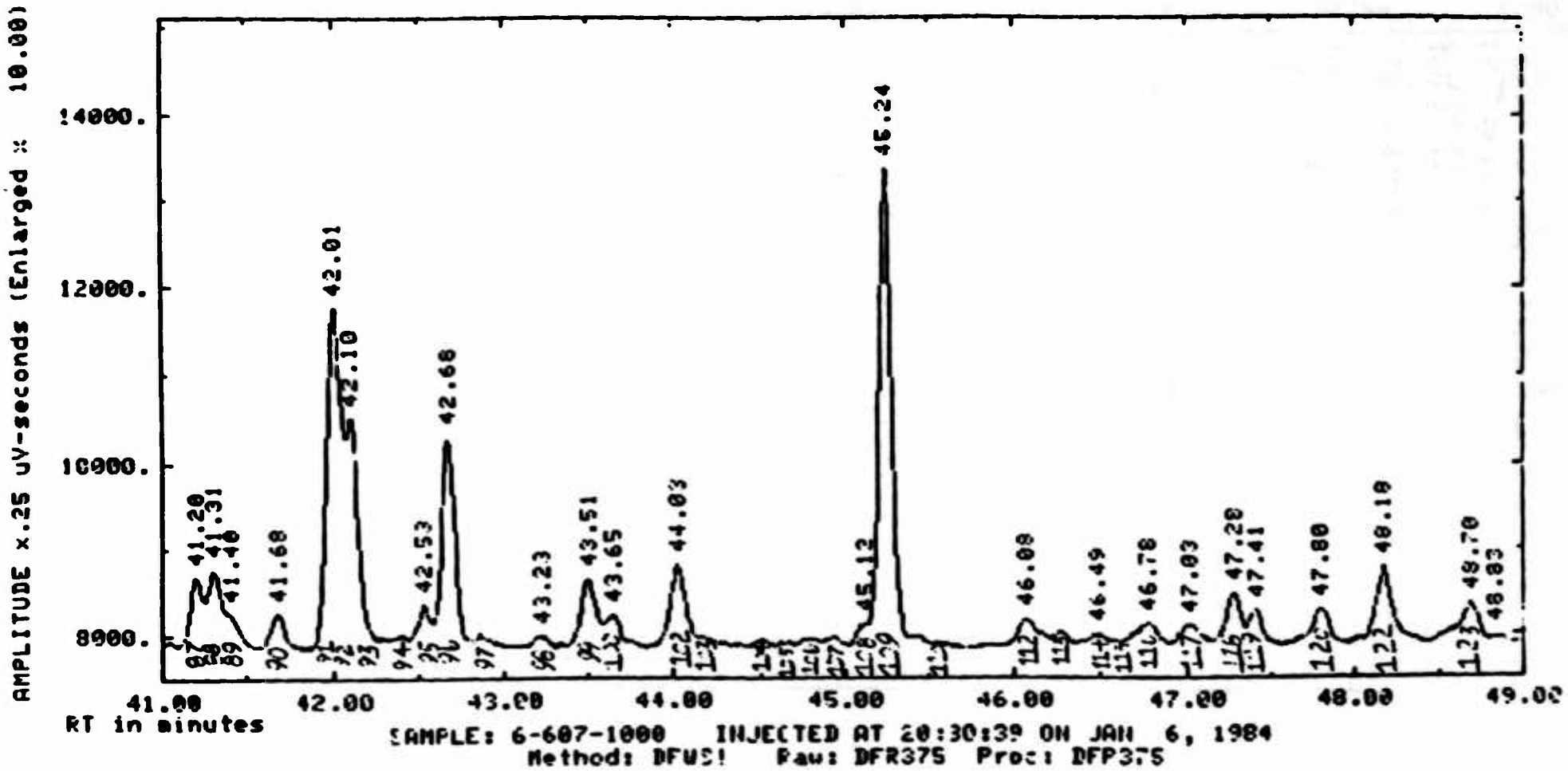

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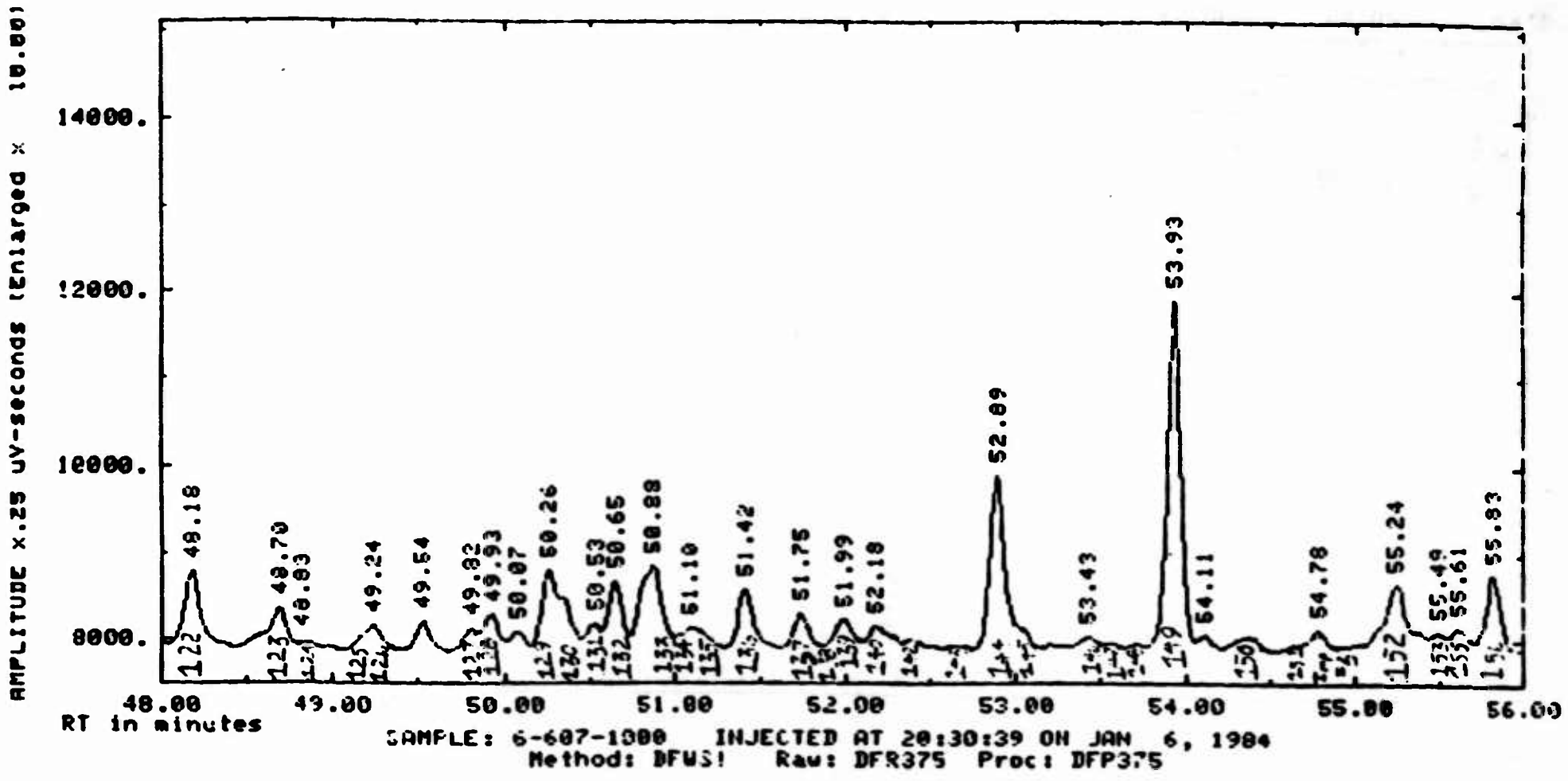

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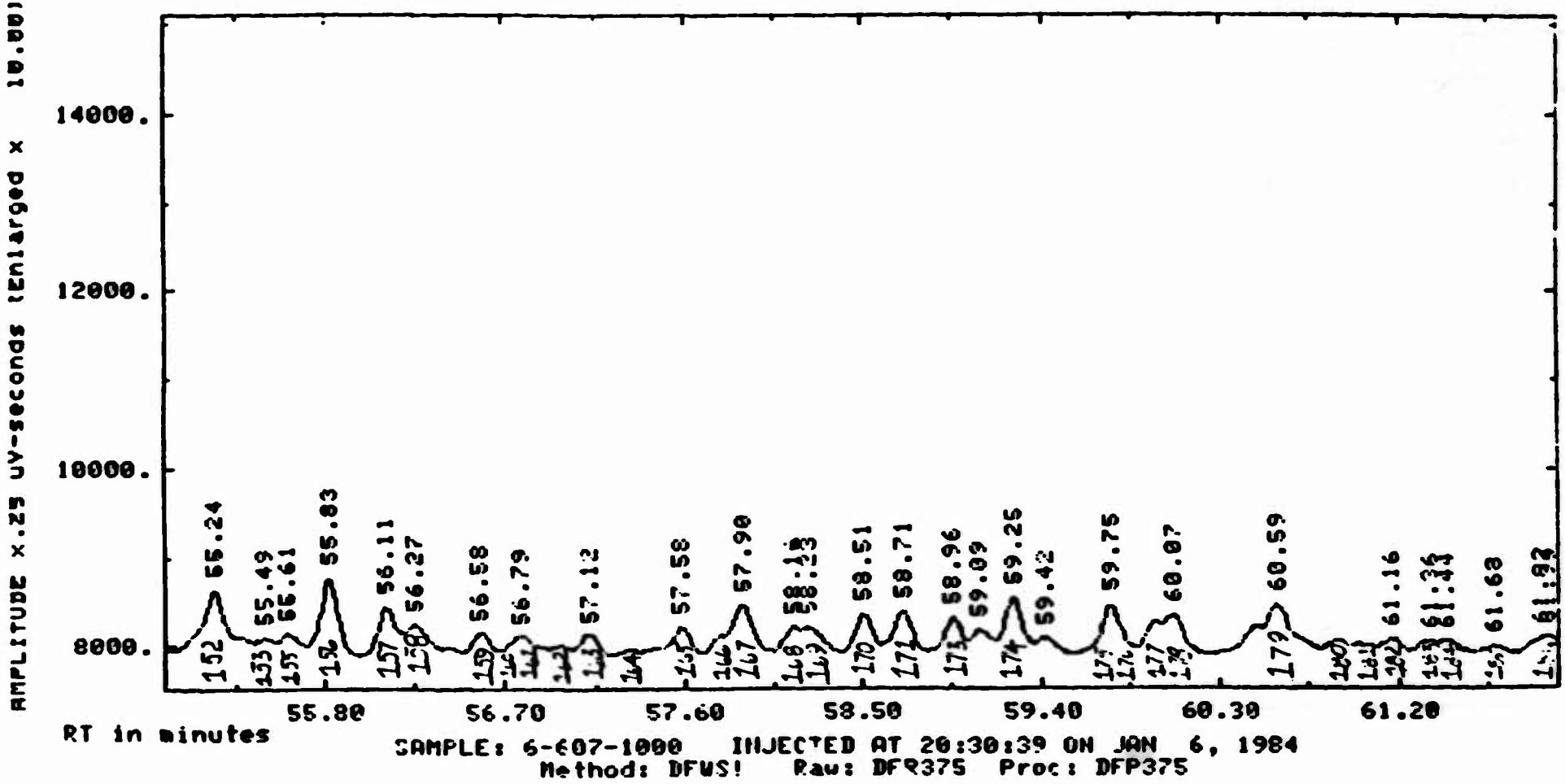

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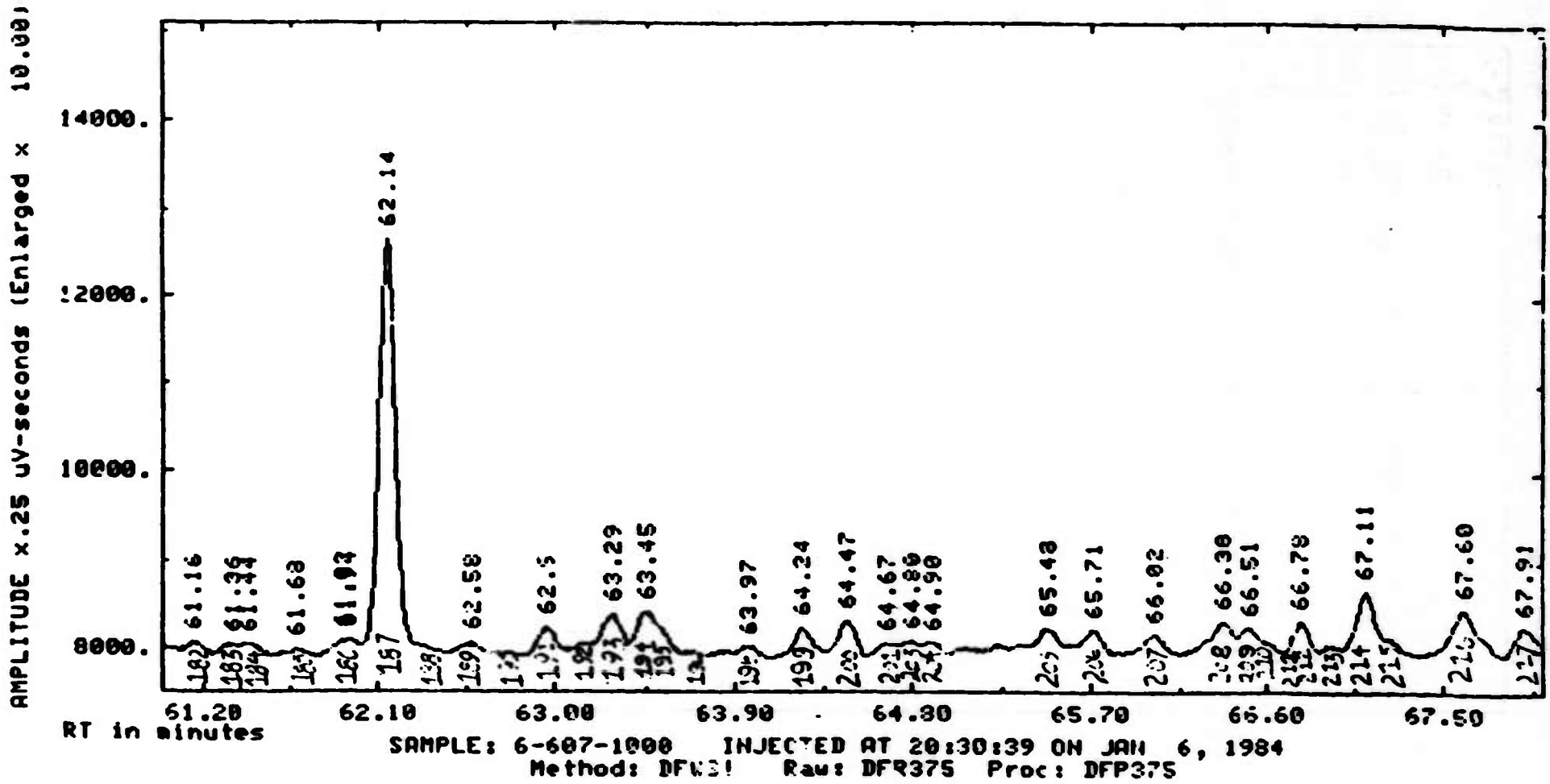

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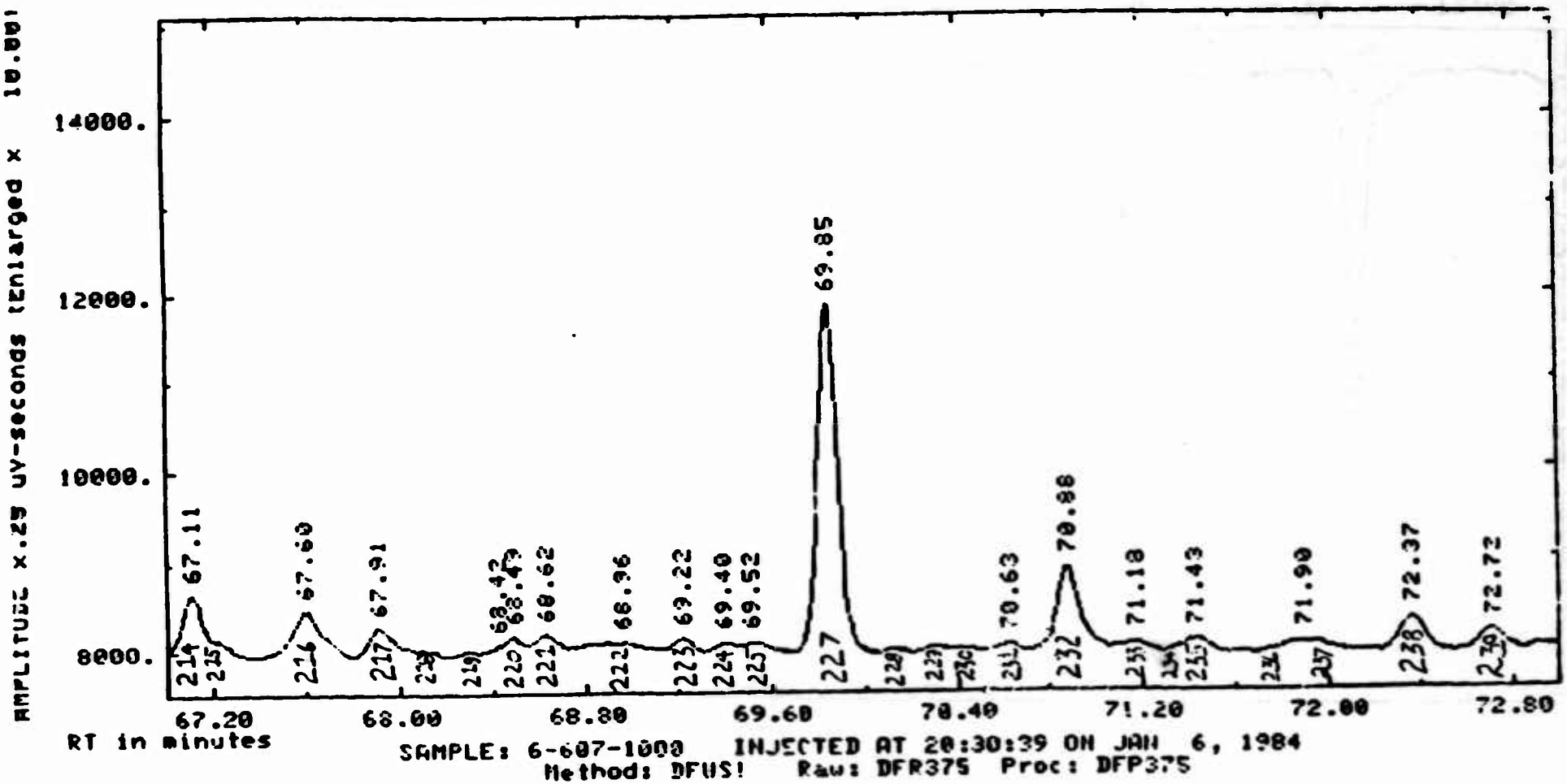

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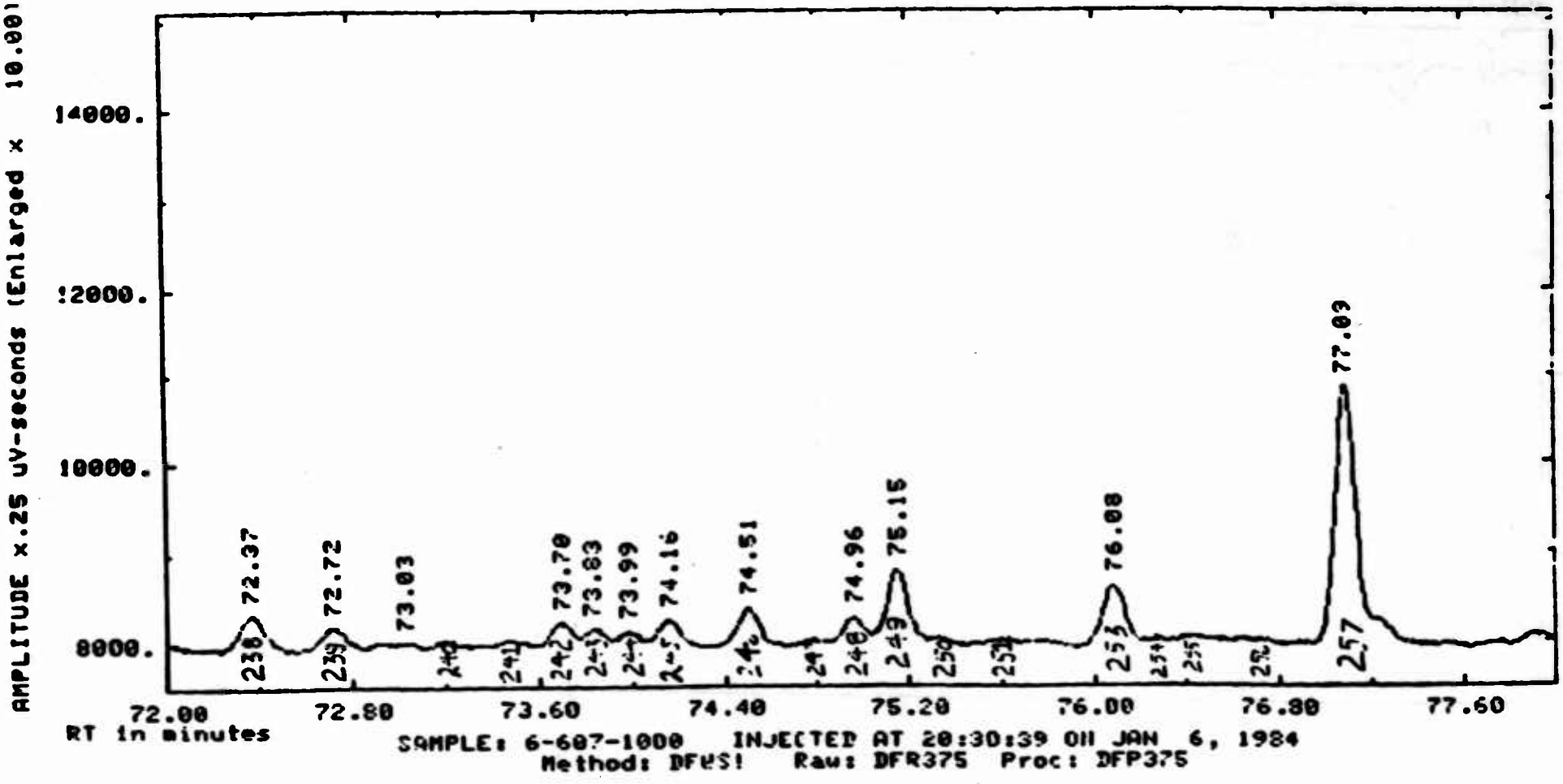

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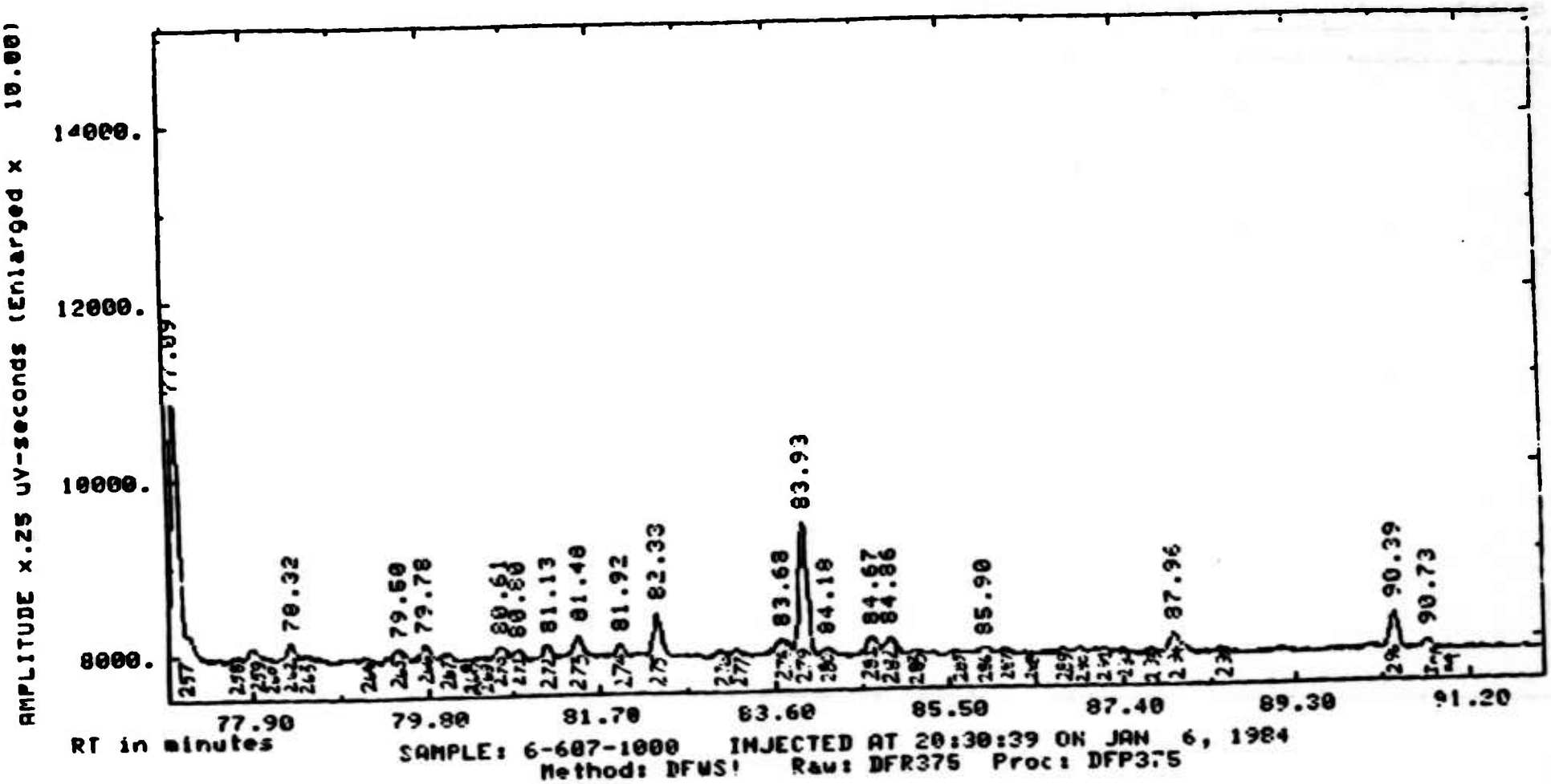

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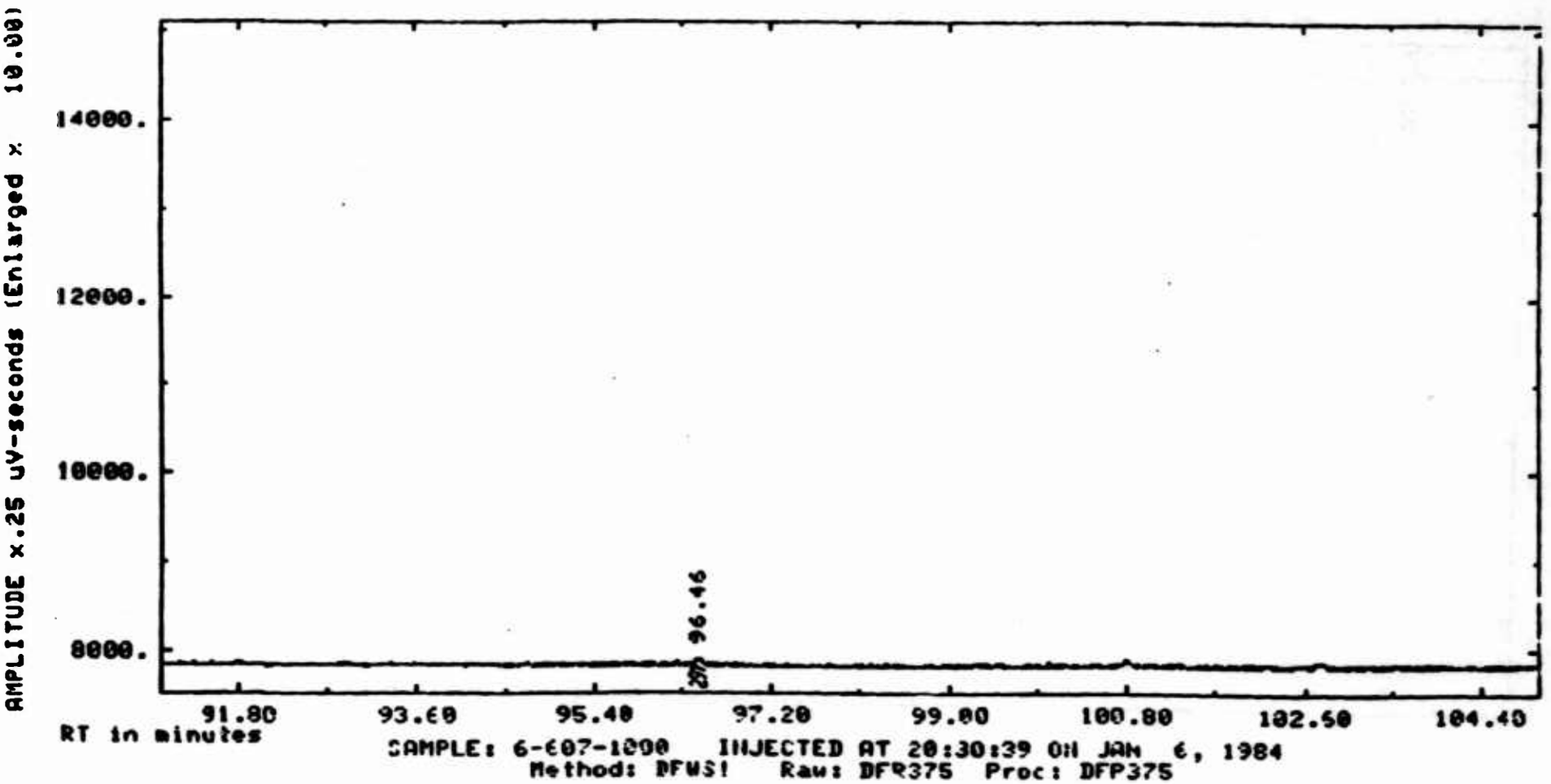

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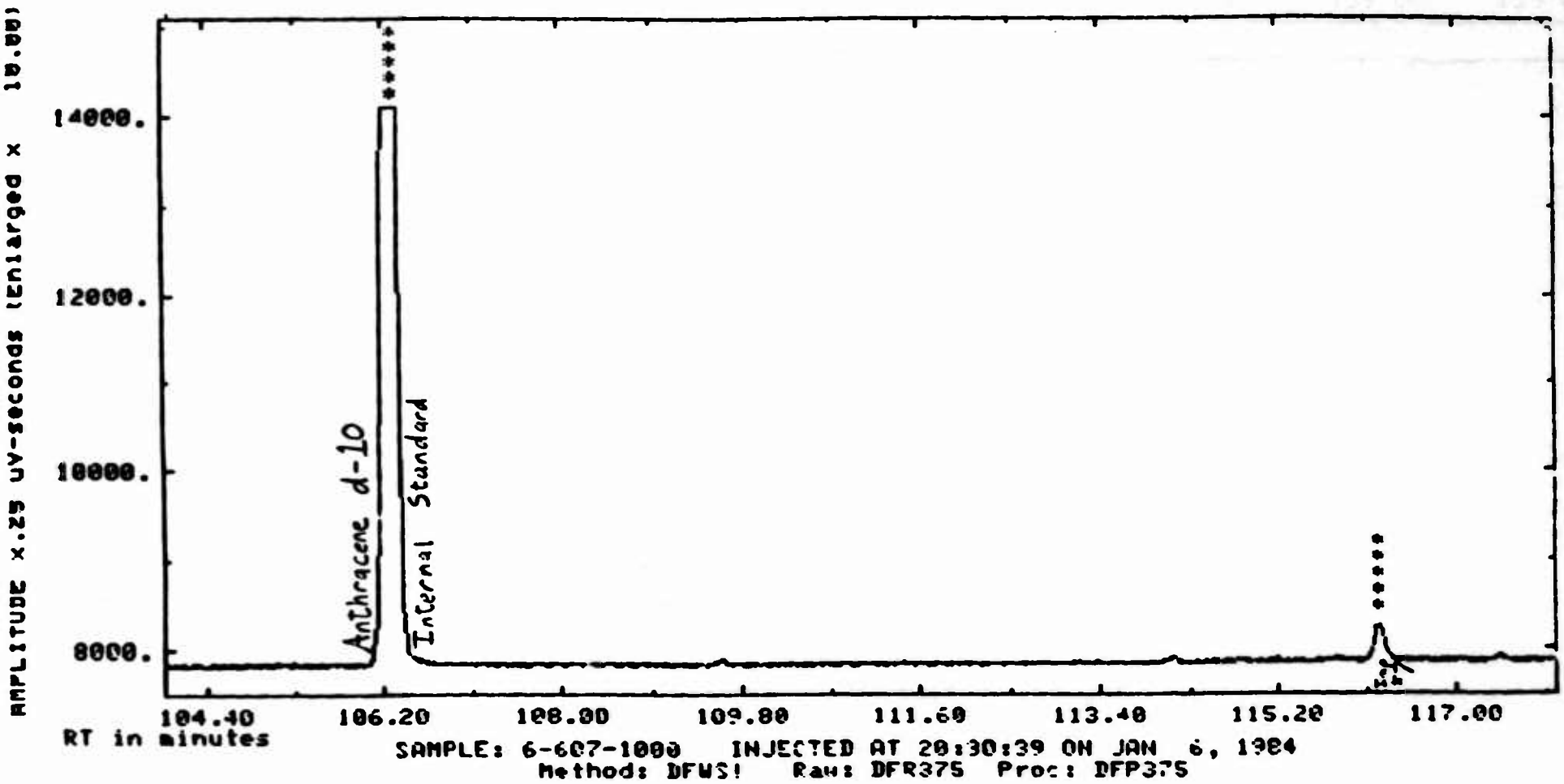

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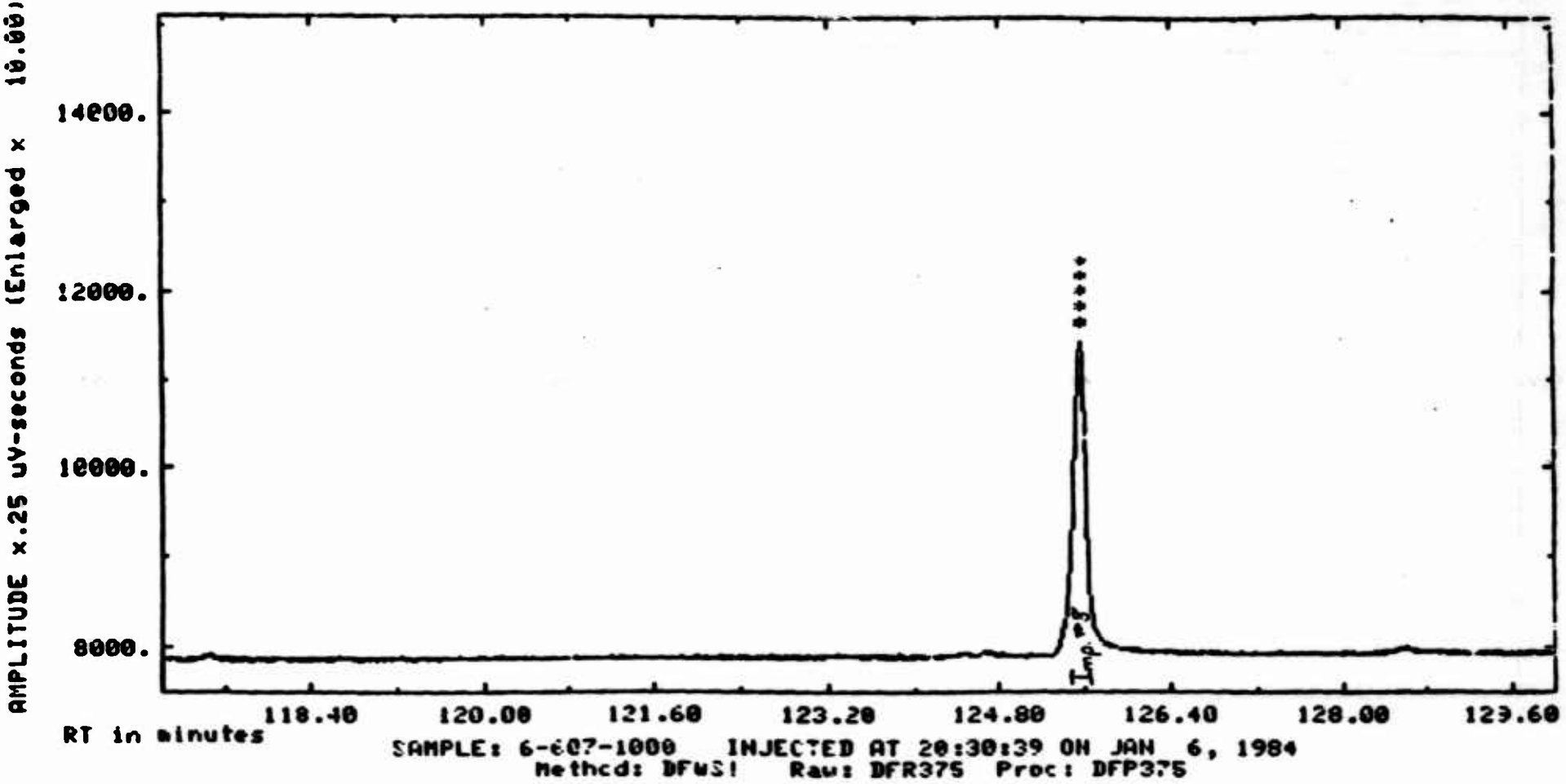

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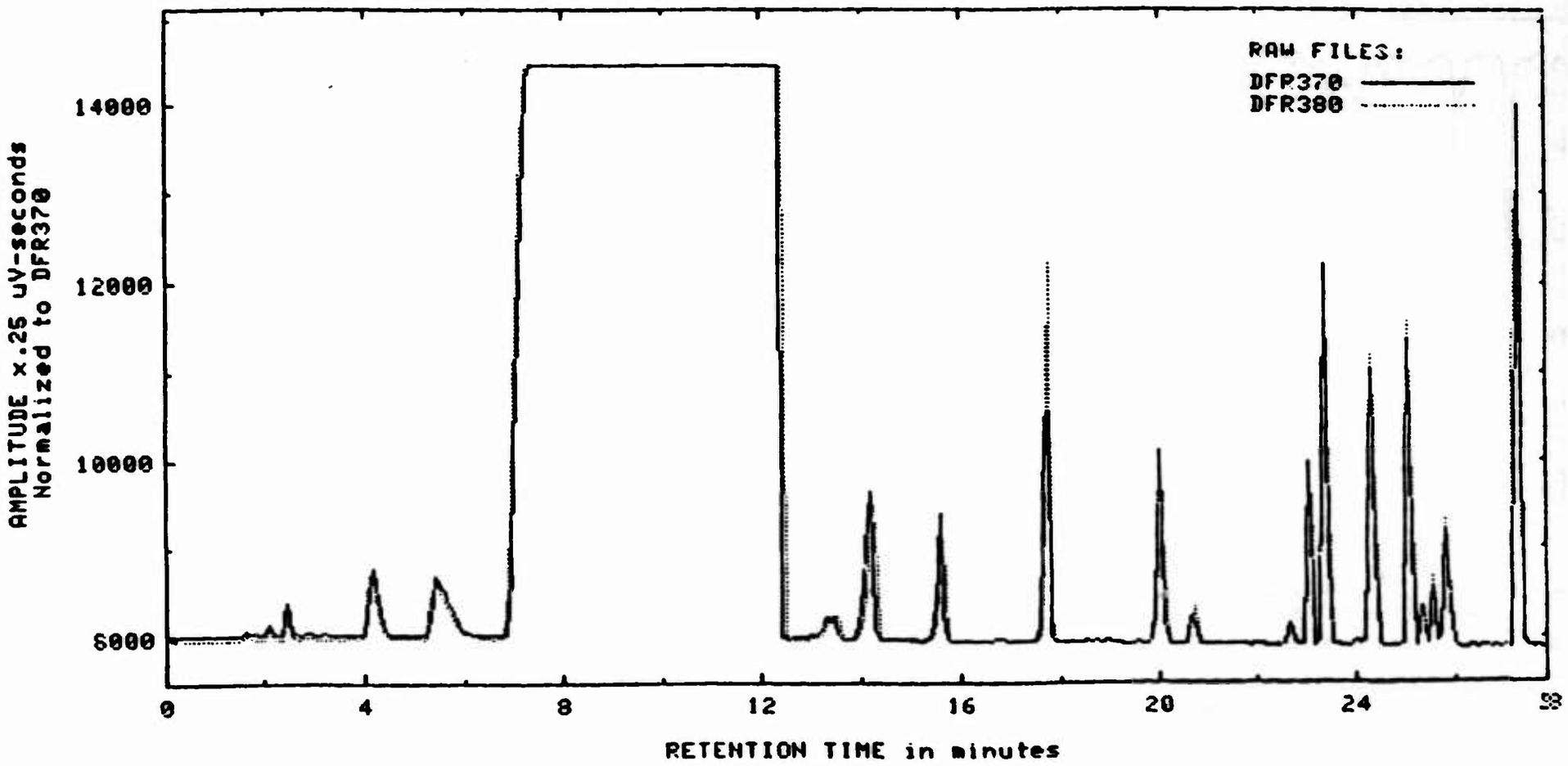
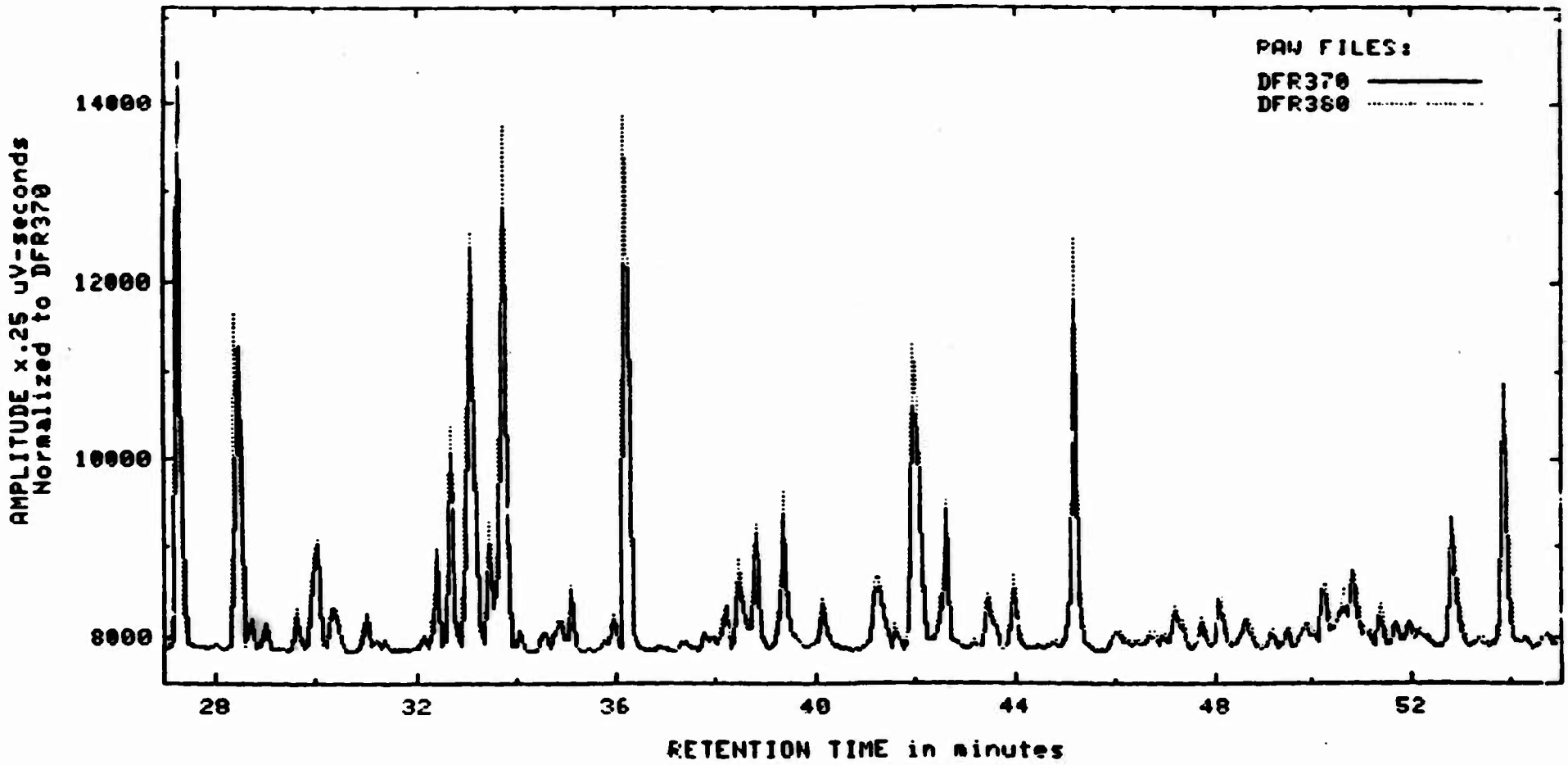


Figure 2. Comparison of Chromatograms from the Analysis of the JP-4 Reference Fuel Diluted One Thousand Times and 2 ml of the Diluted Reference Fuel Equilibrated with 40 ml Water.



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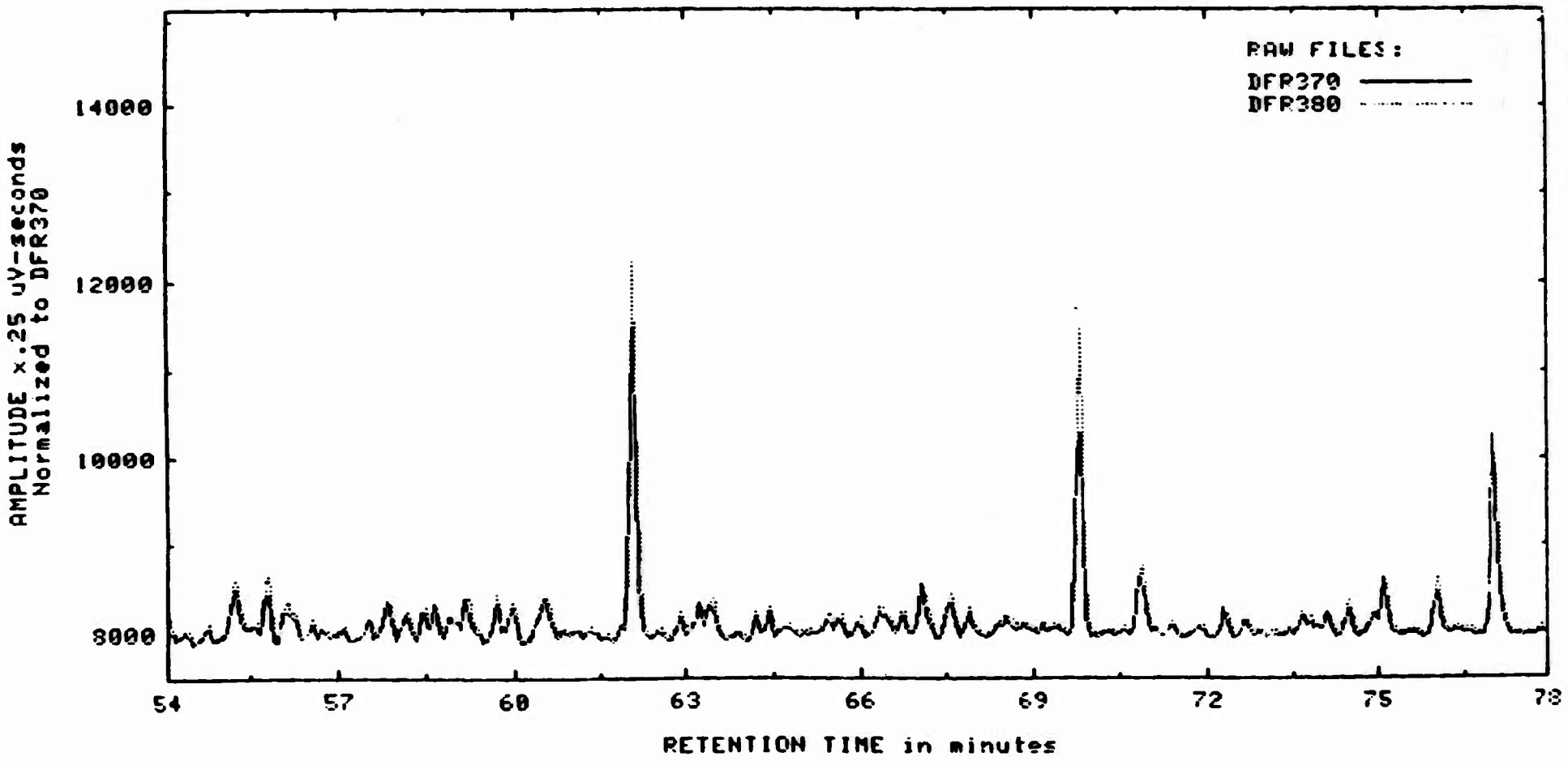

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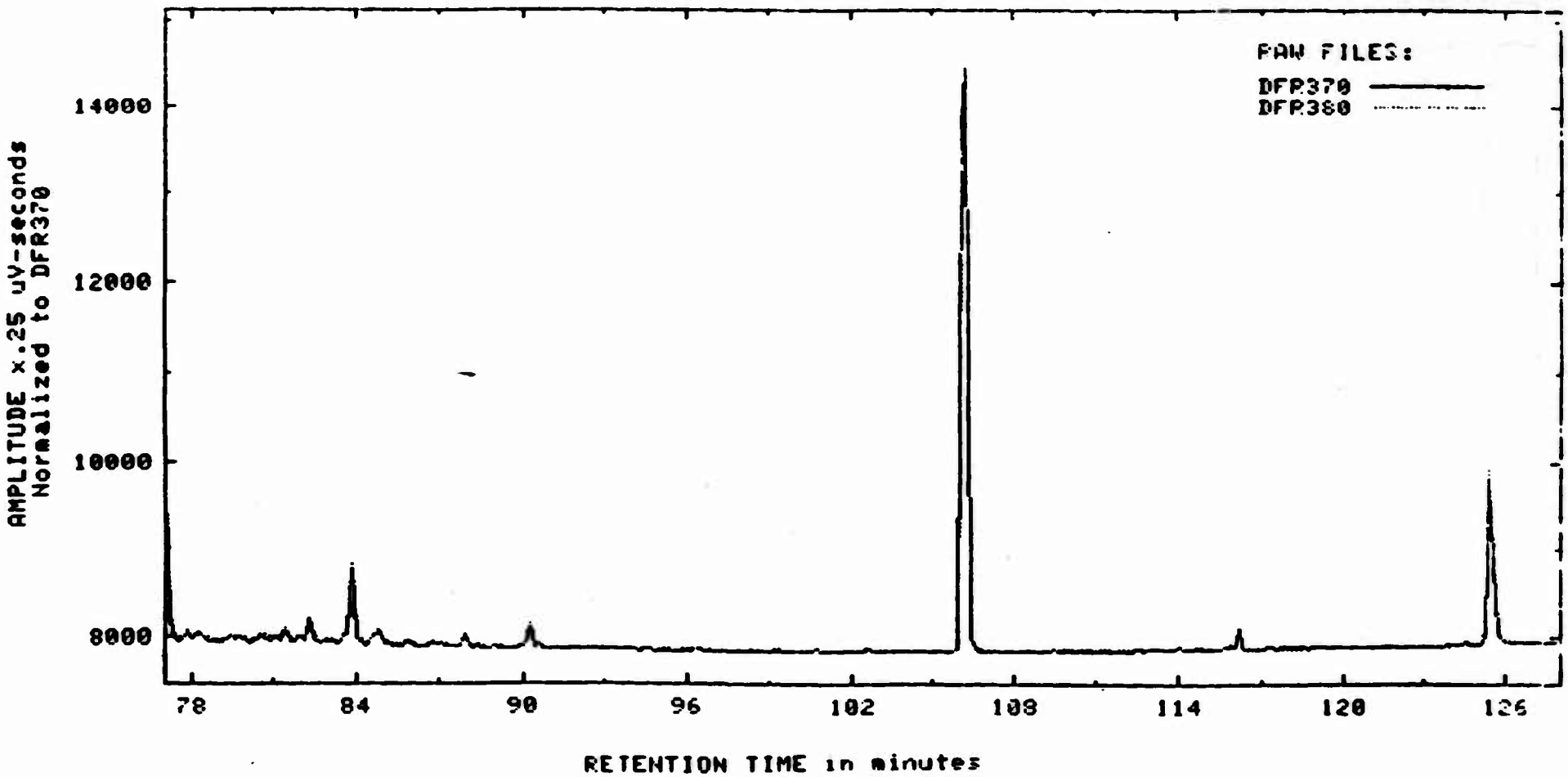

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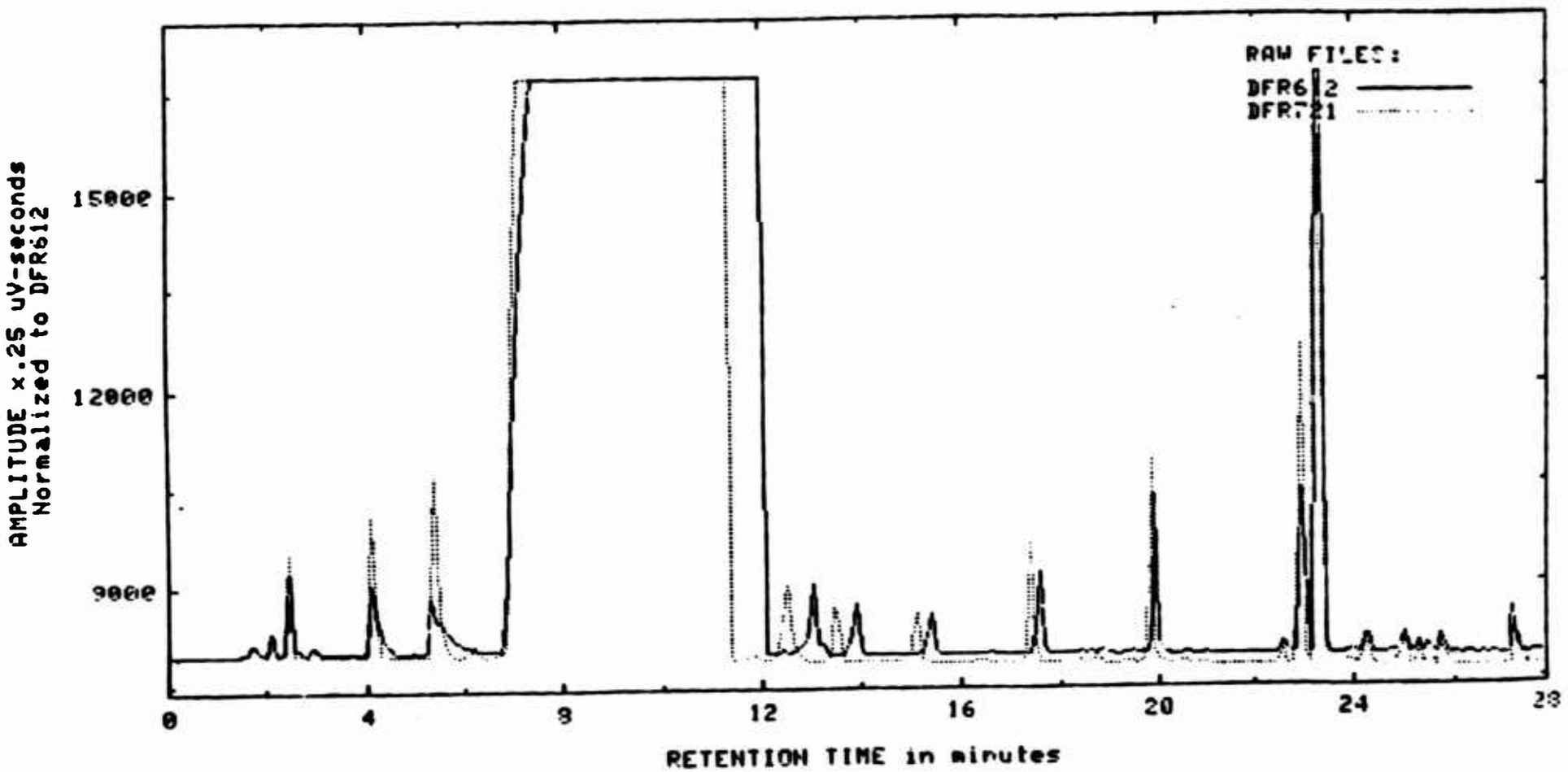


Figure 3. Comparison of Chromatograms Obtained from the Analysis of Carbon Disulfide Extracts of Water Equilibrated with the Neat Reference JP-4 Fuel. DER12 was Obtained at the Beginning of the Water Soluble Feature Study and DER721 was Obtained at the End of the Study.

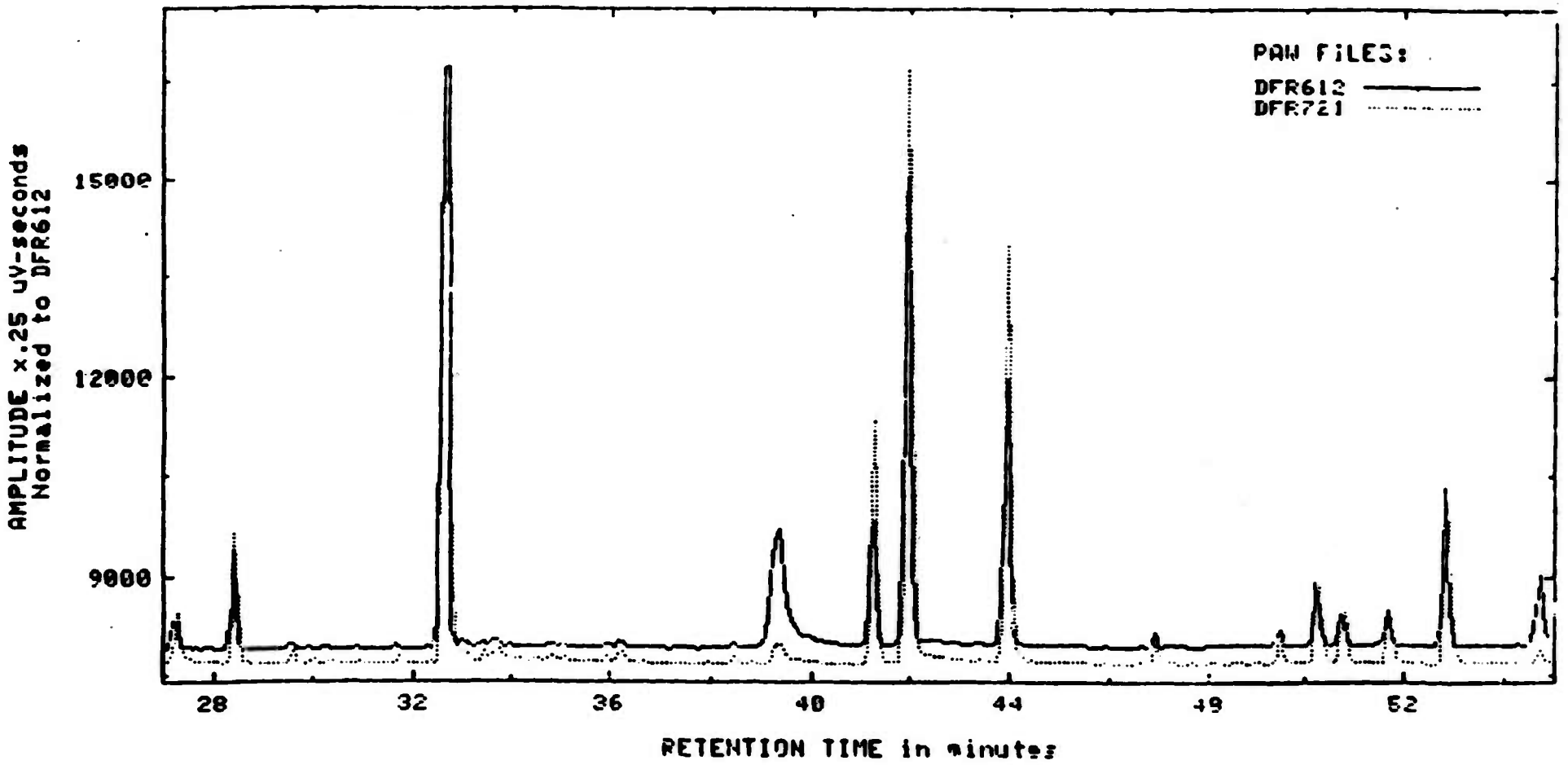


Figure 3 (cont'd)

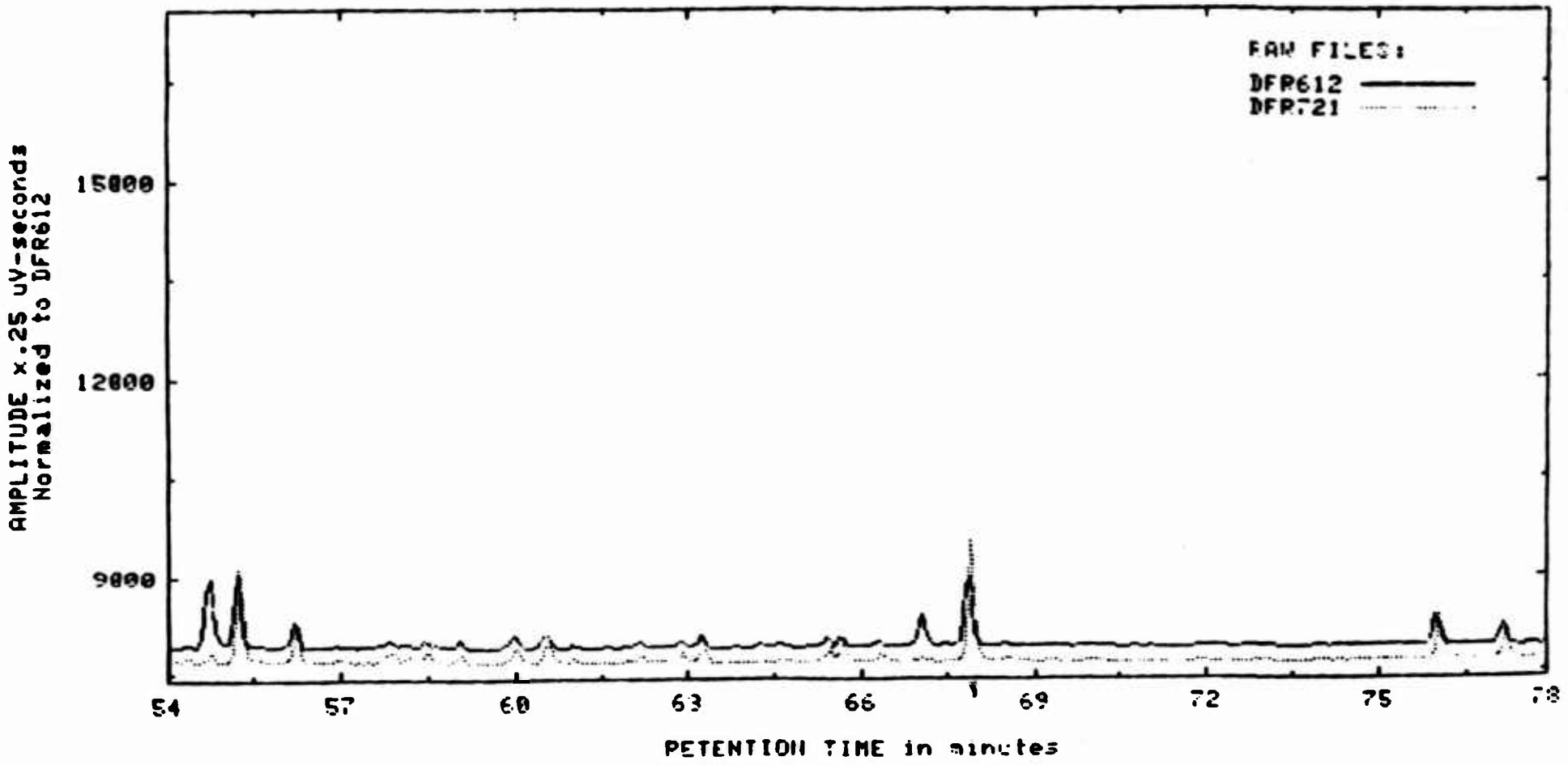


Figure 3 (cont'd)

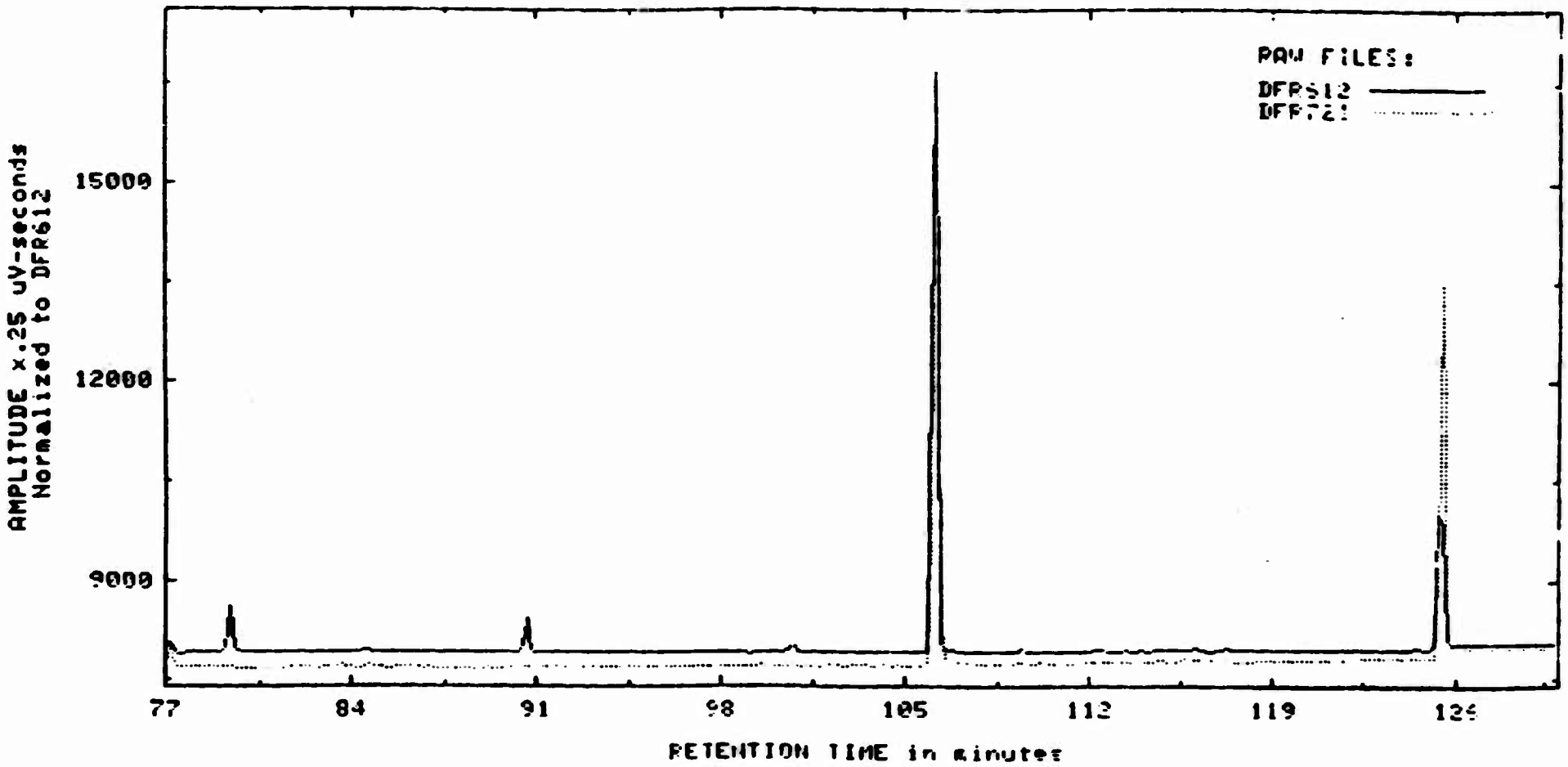


Figure 3 (concluded)

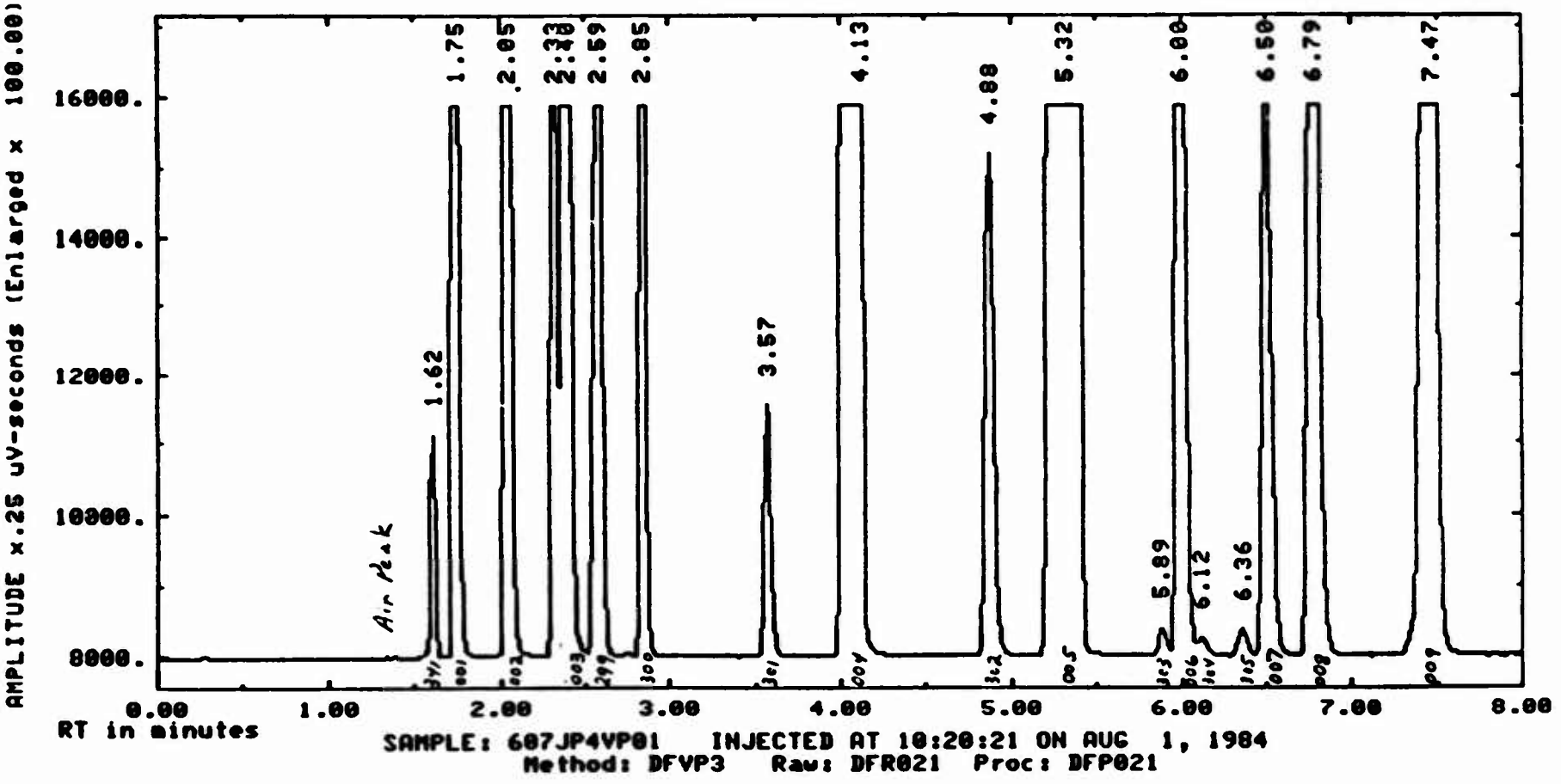


Figure 4. Identifications of Vapor Phase Features for the Reference JP-4 Fuel from GC/FID Analysis.

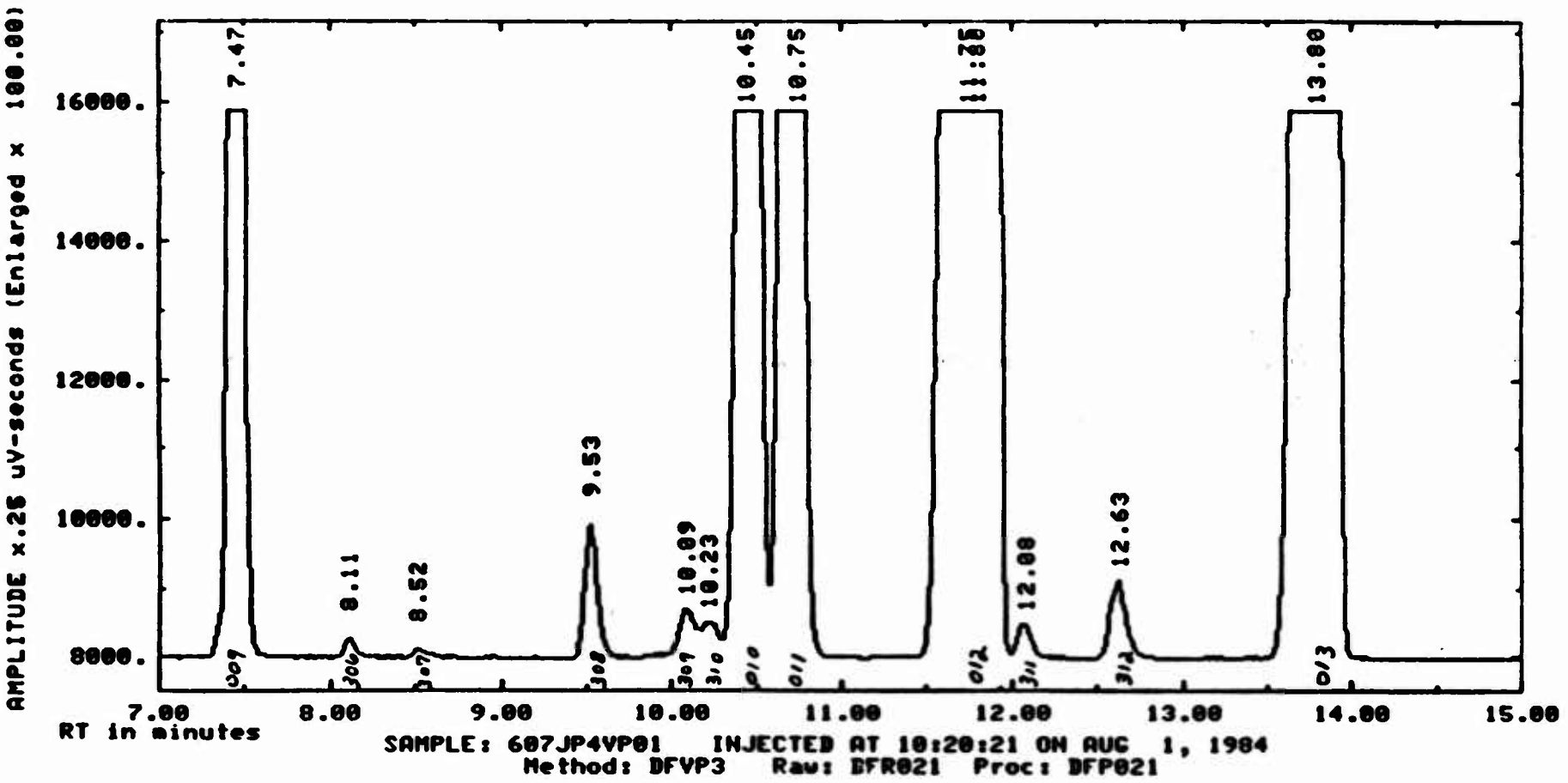


Figure 4 (cont'd)

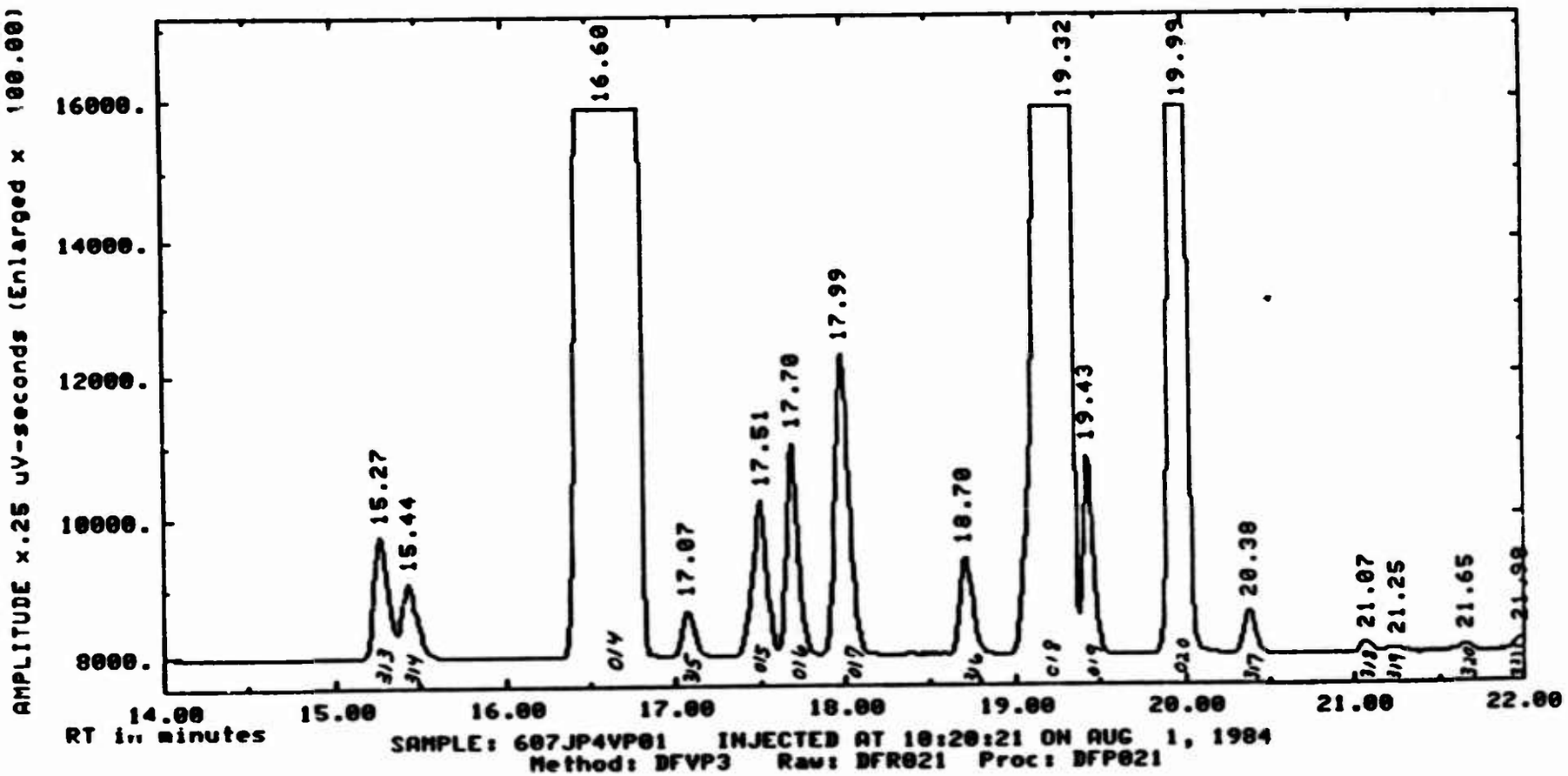


Figure 4 (cont'd)

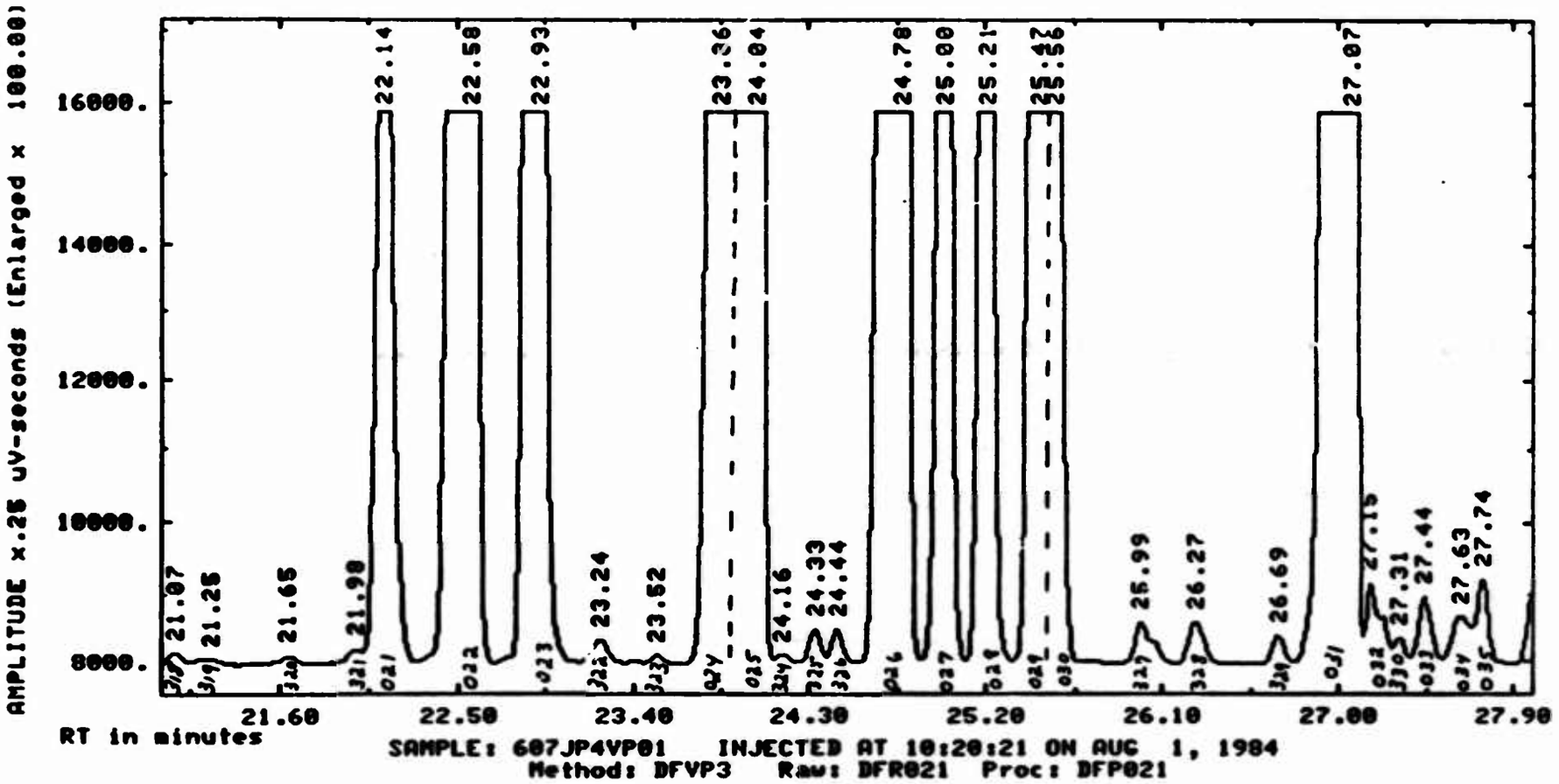


Figure 4 (cont'd)

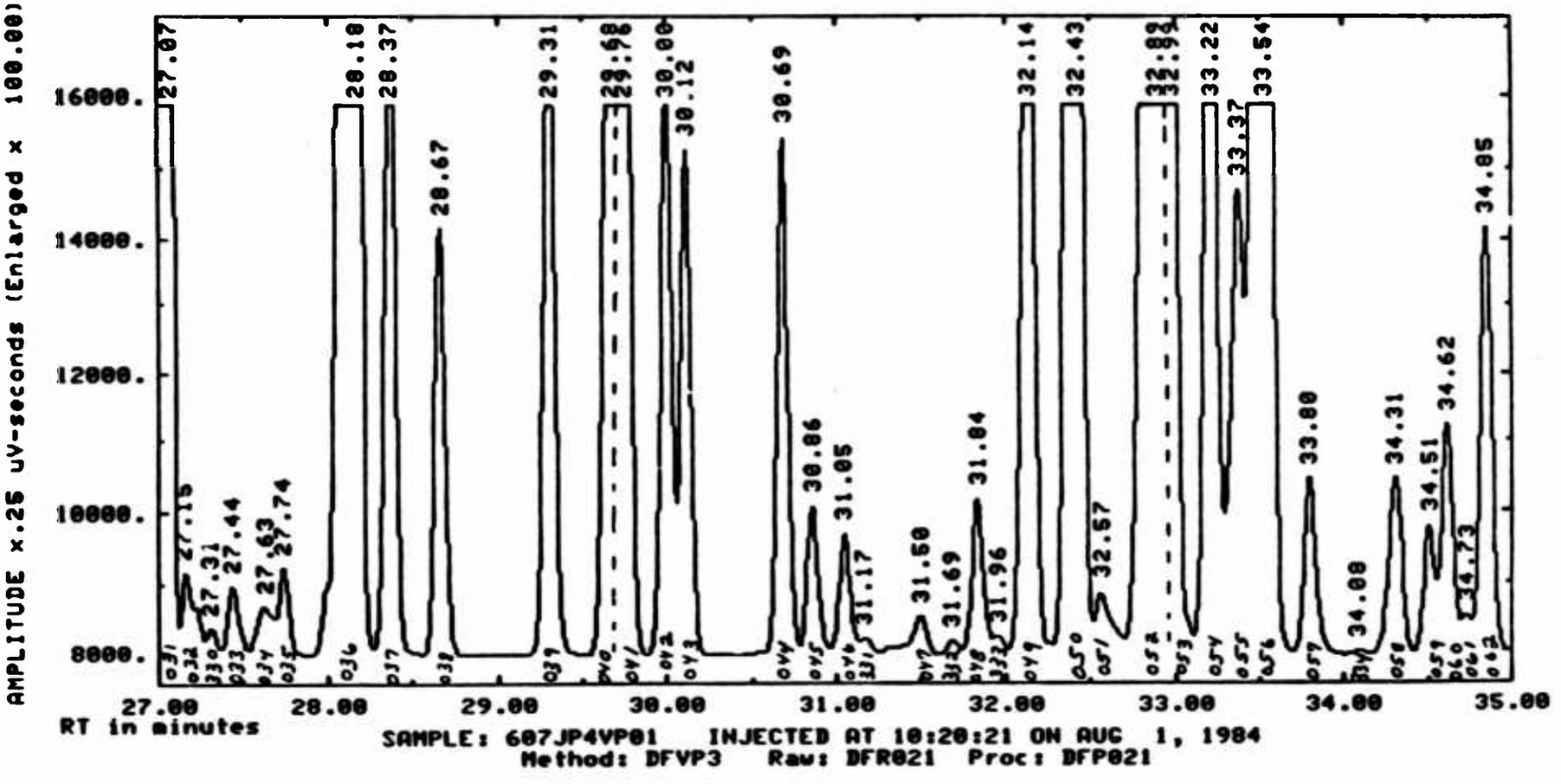


Figure 4 (cont'd)

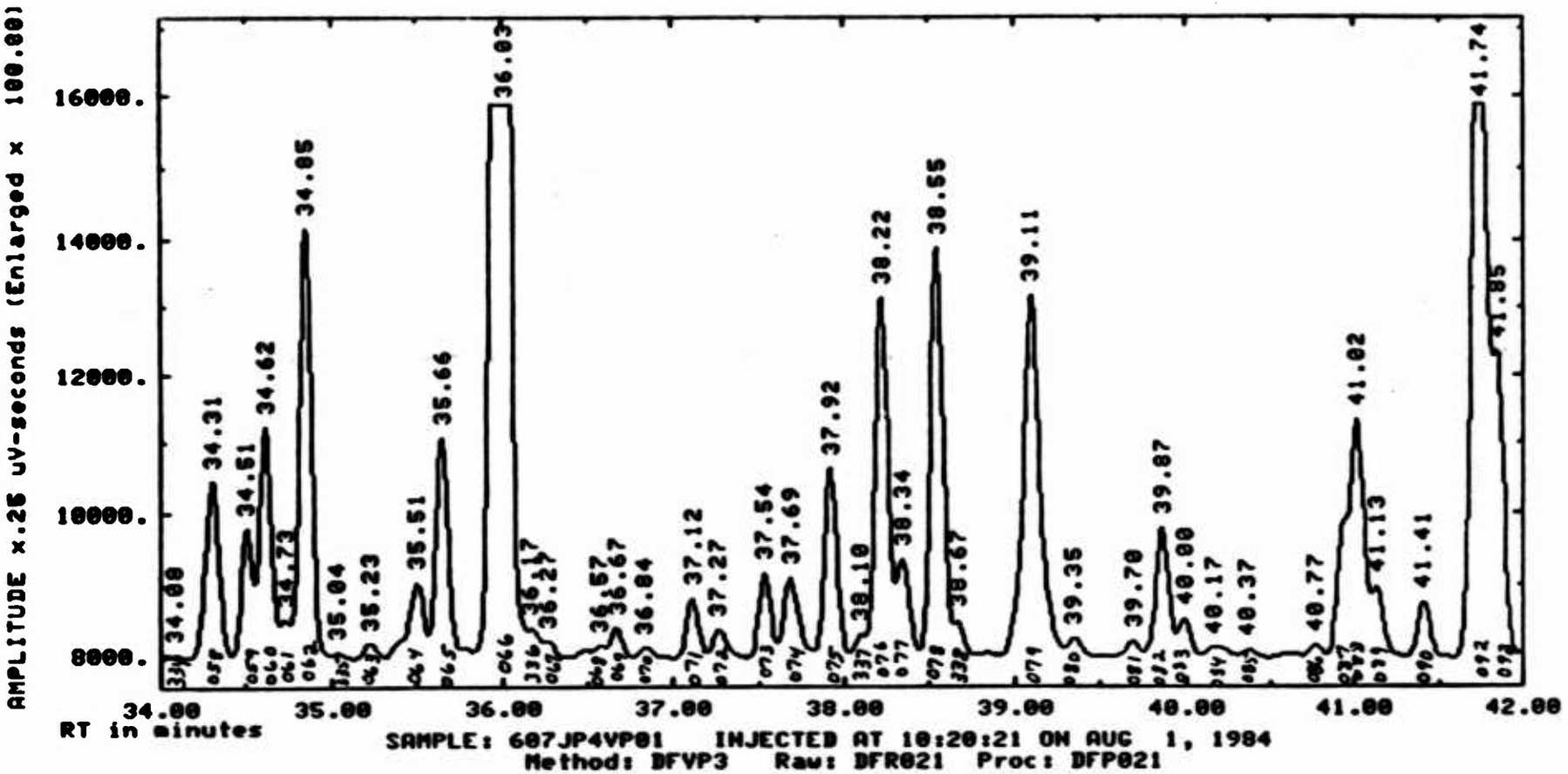


Figure 4 (cont'd)

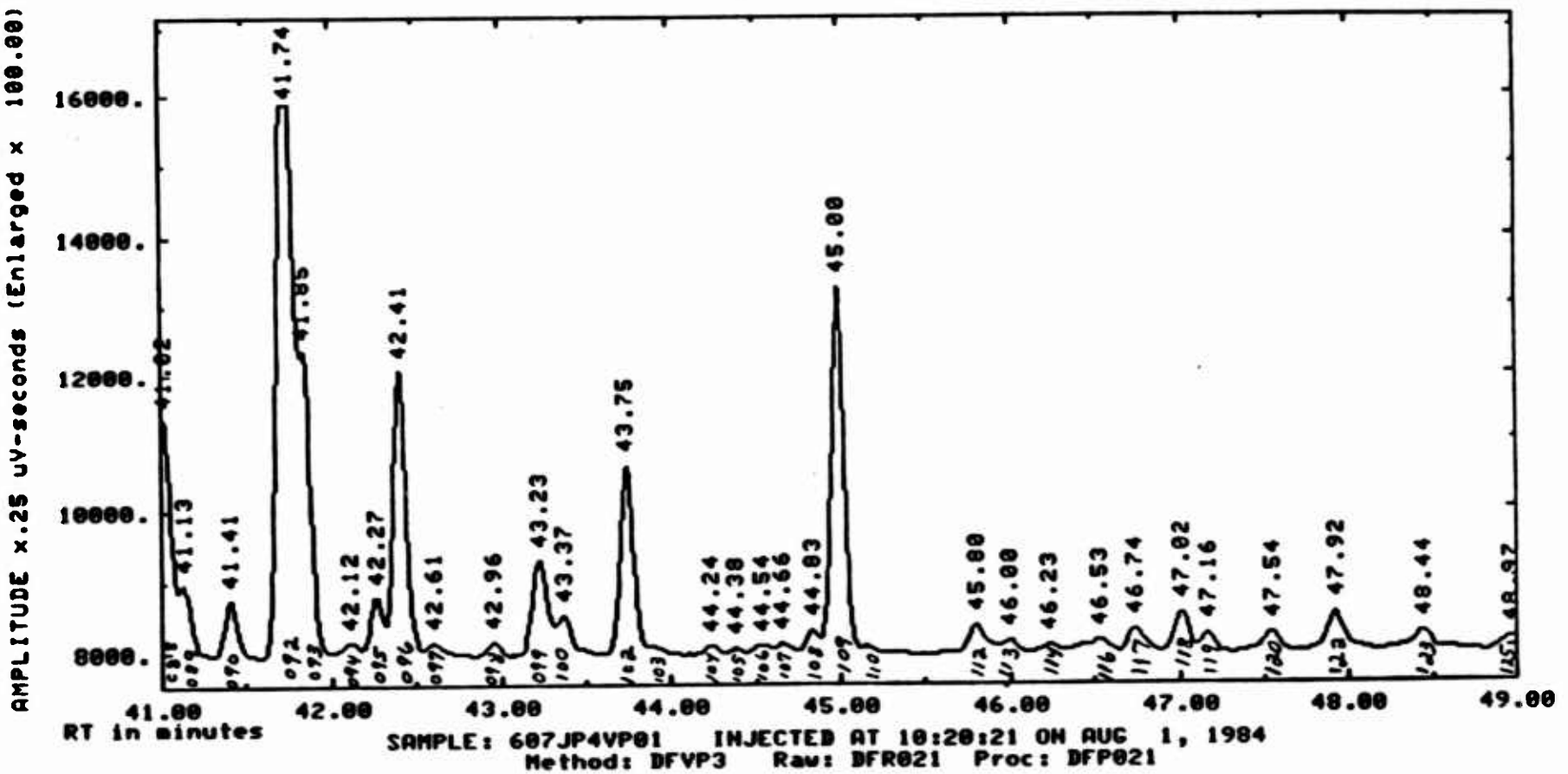


Figure 4 (cont'd)

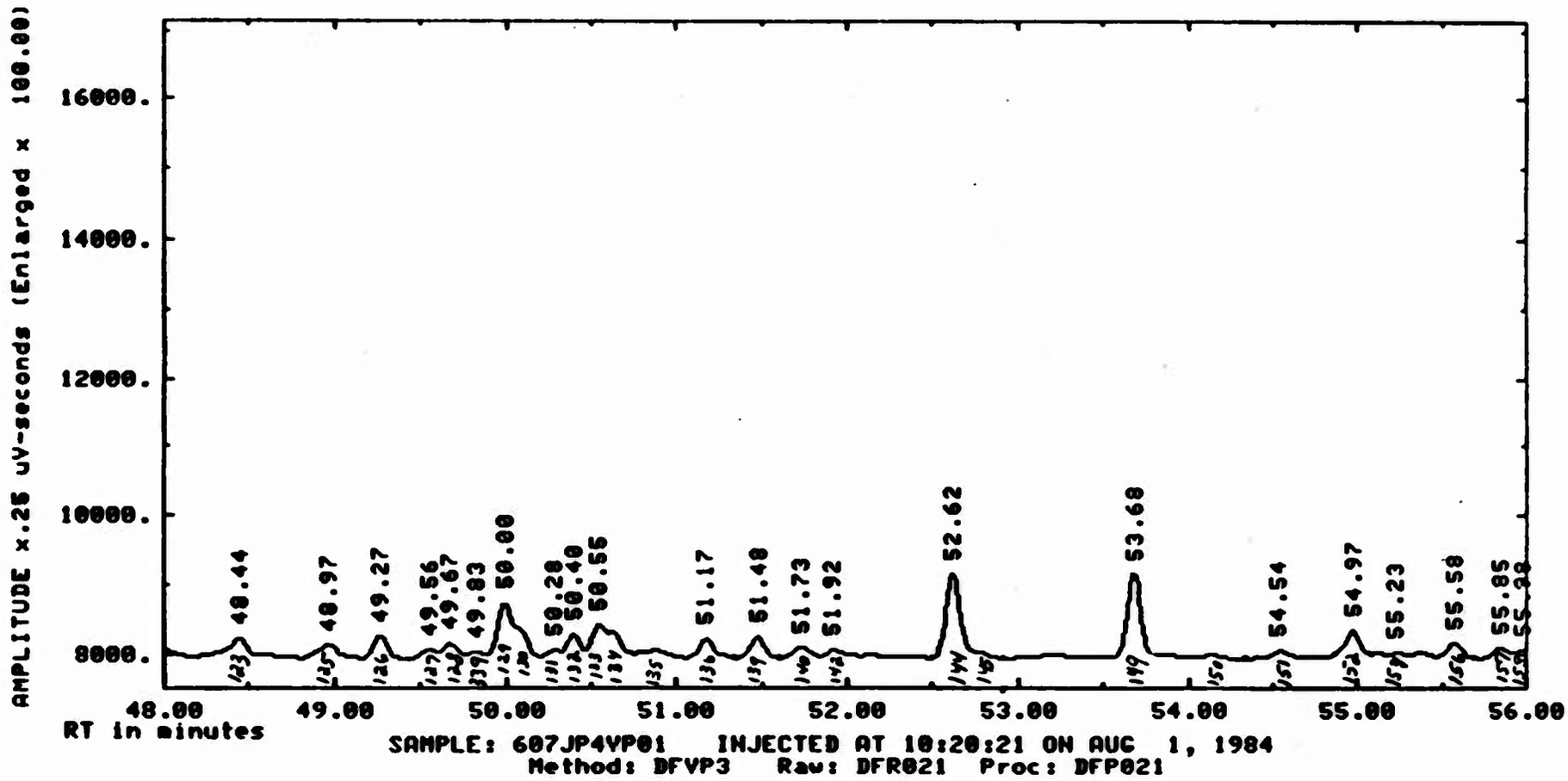


Figure 4 (cont'd)

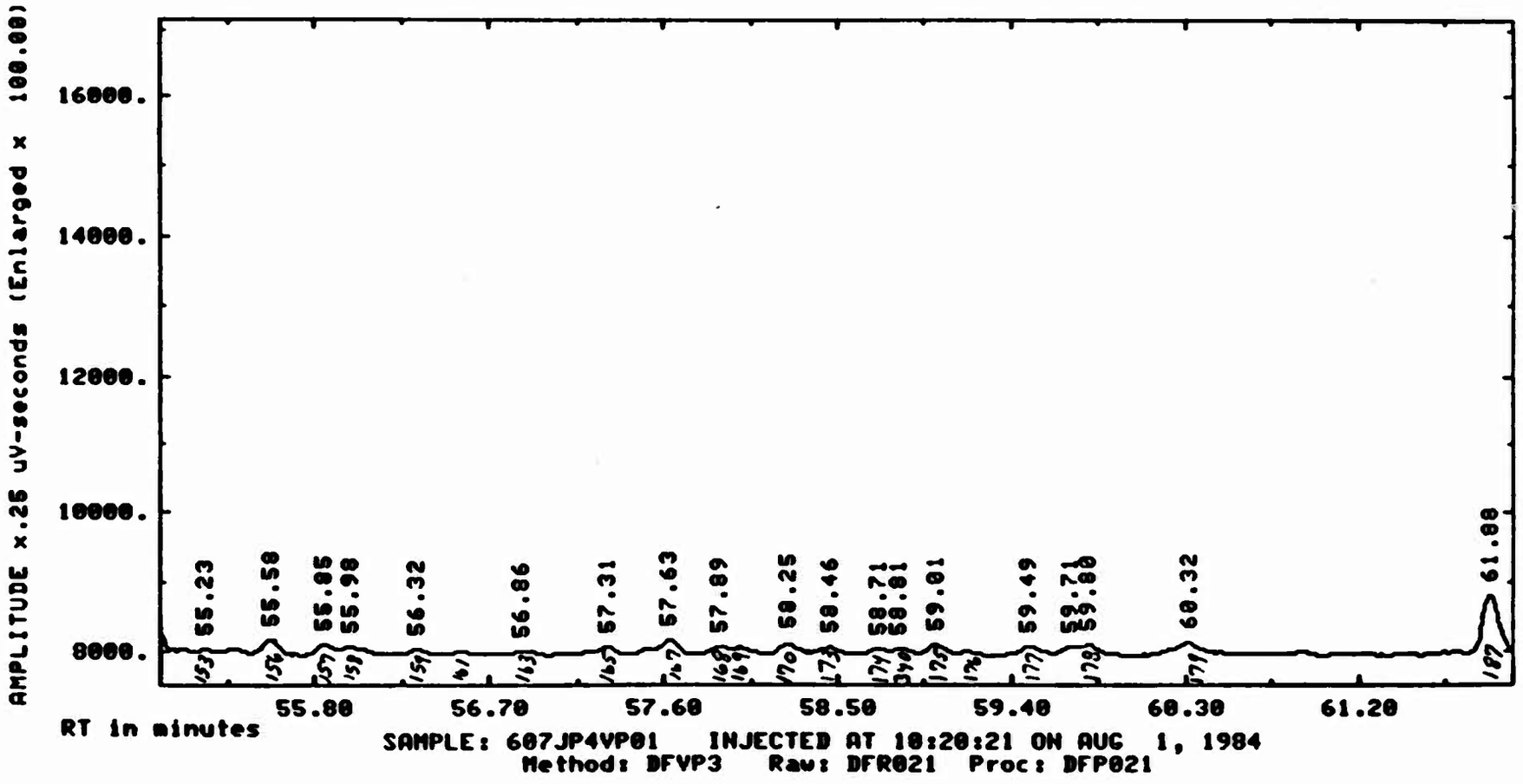


Figure 4 (cont'd)

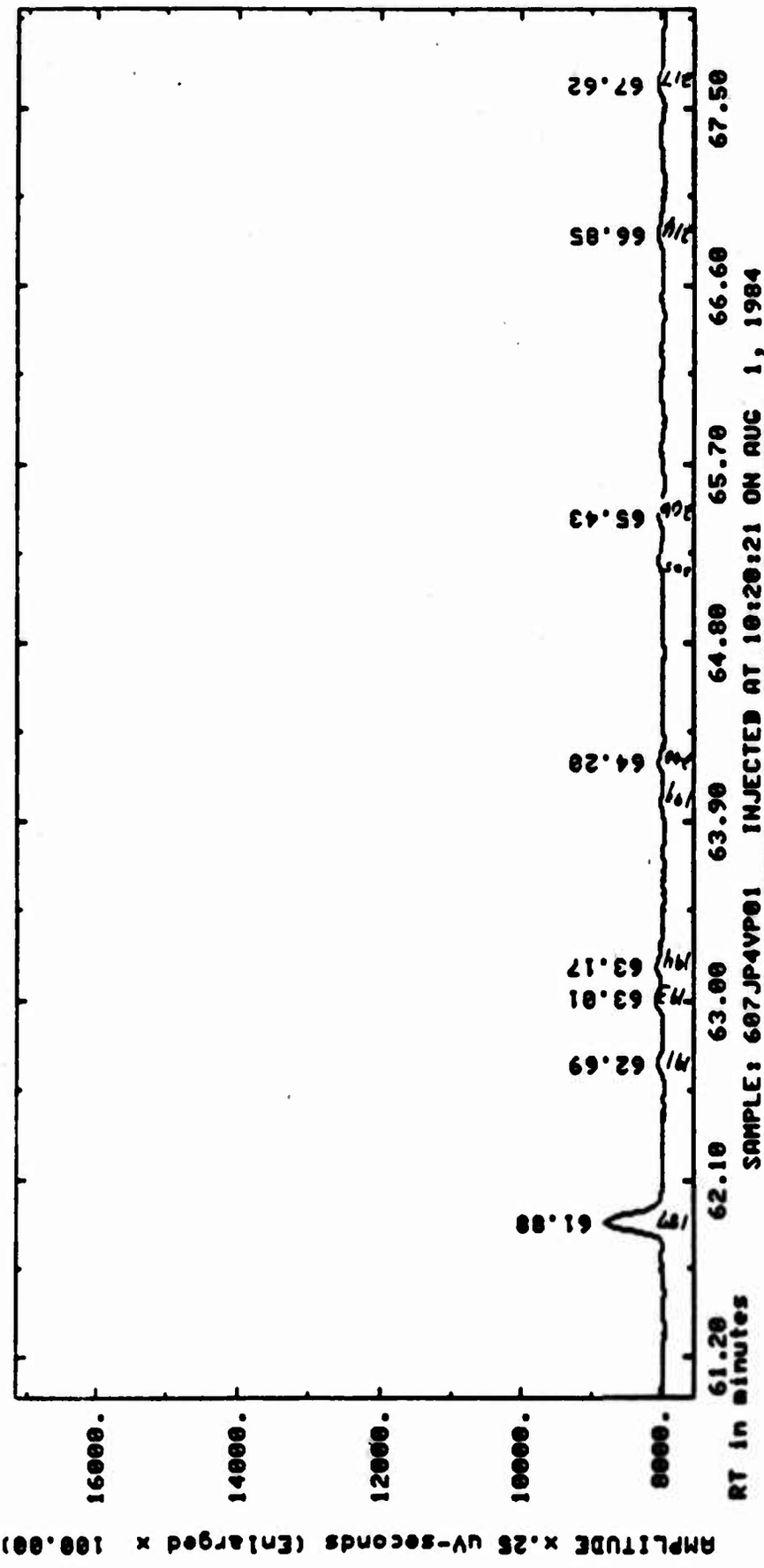


Figure 4 (cont'd)

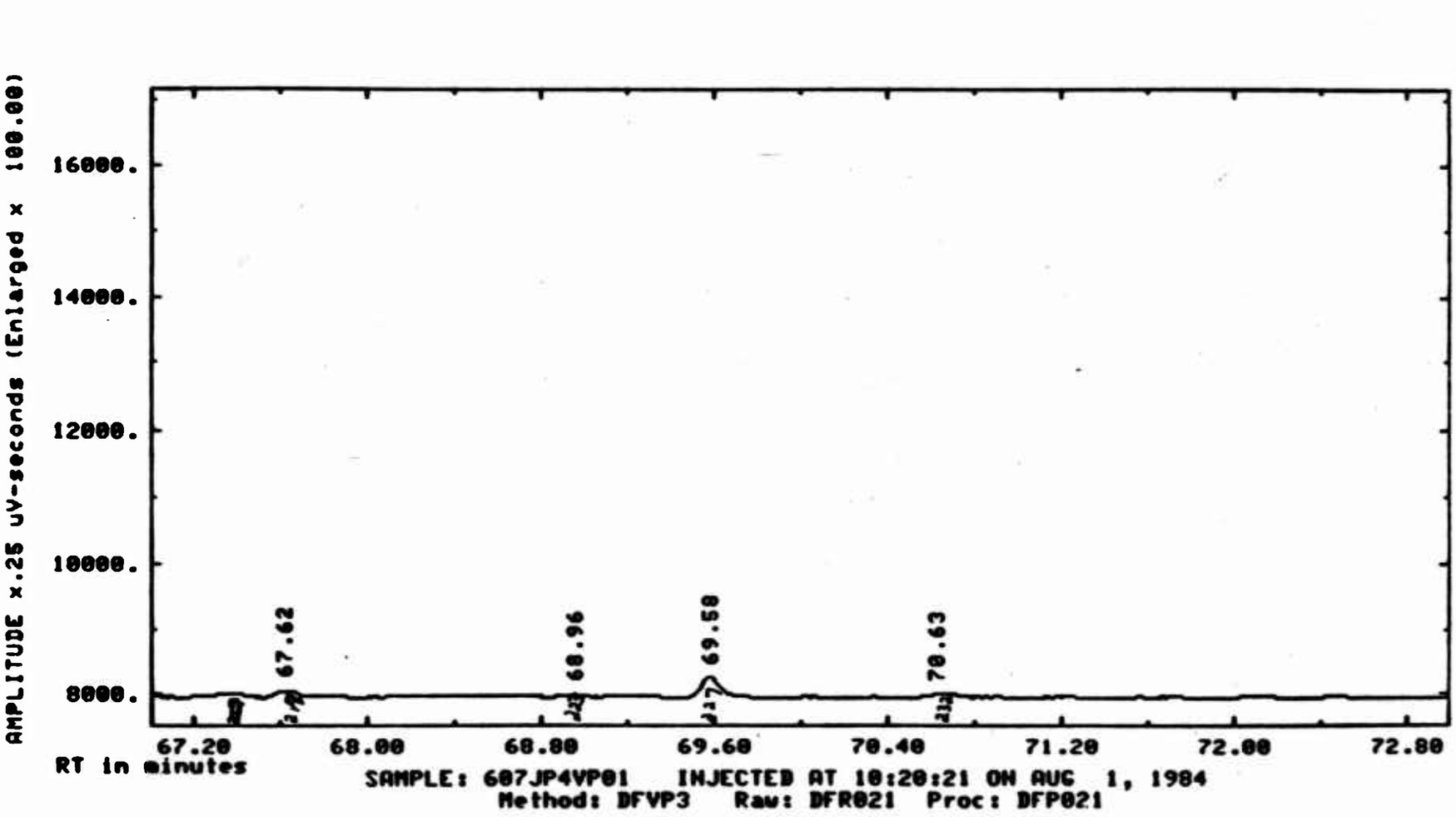


Figure 4 (cont'd)

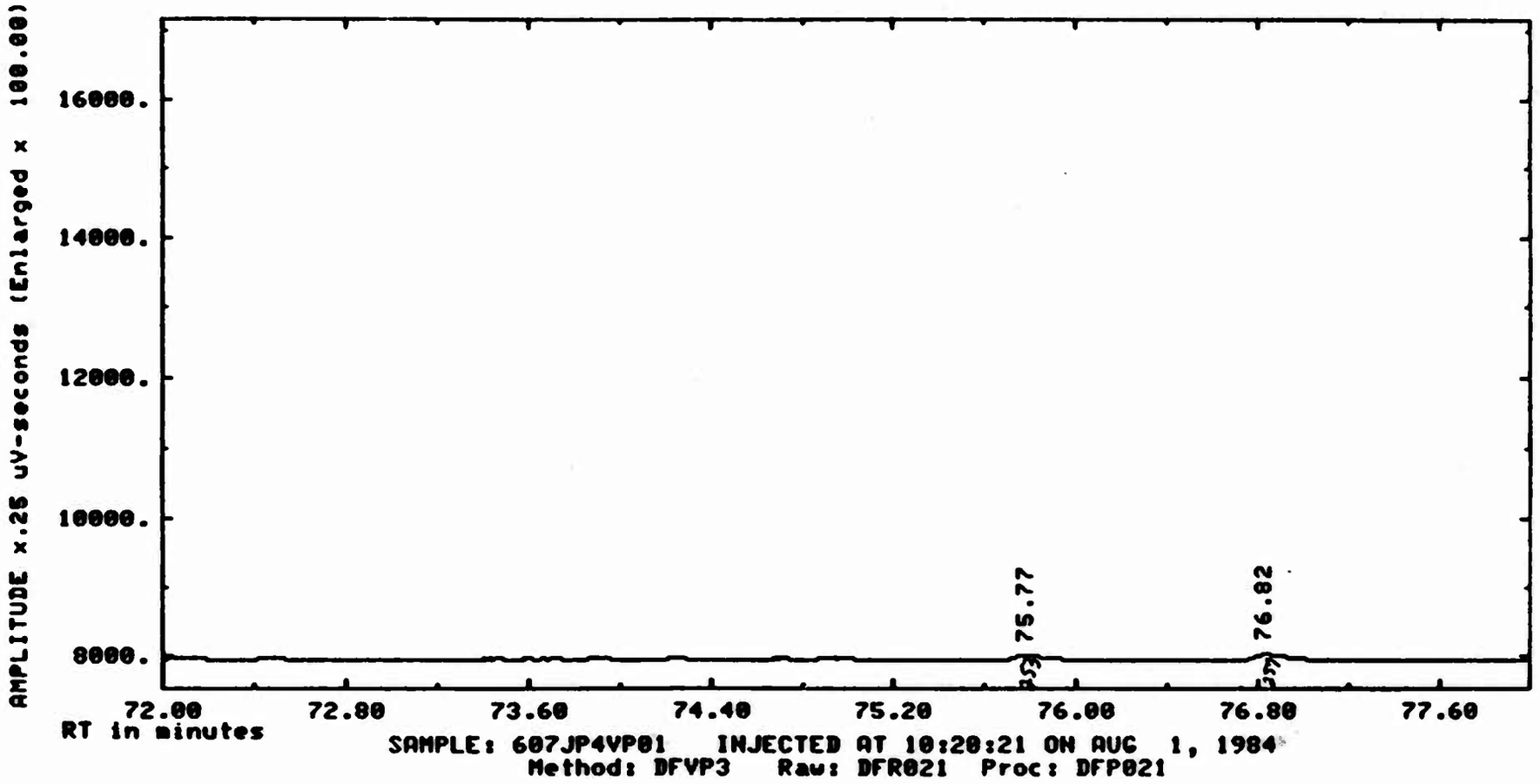


Figure 4 (cont'd)

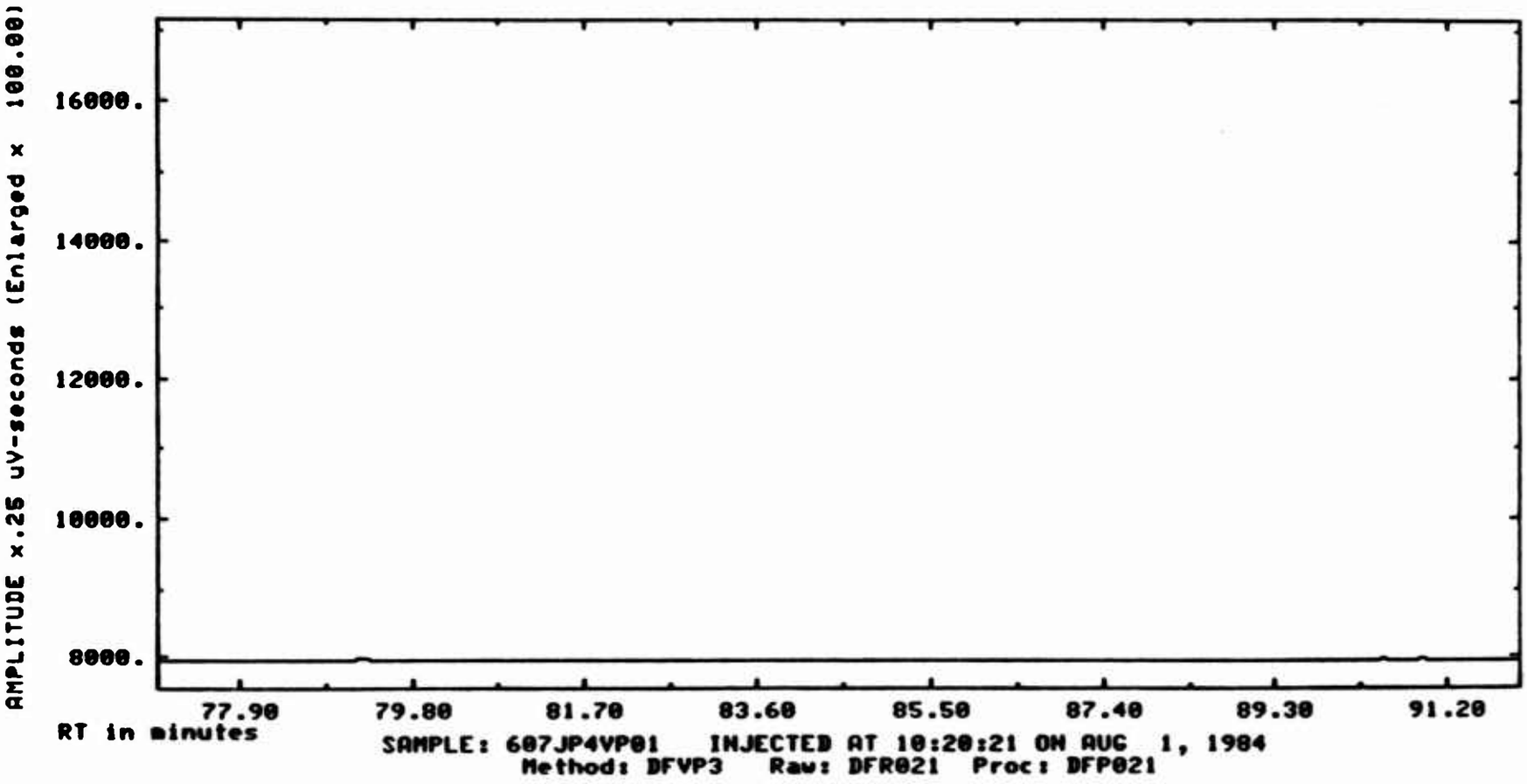


Figure 4 (cont'd)

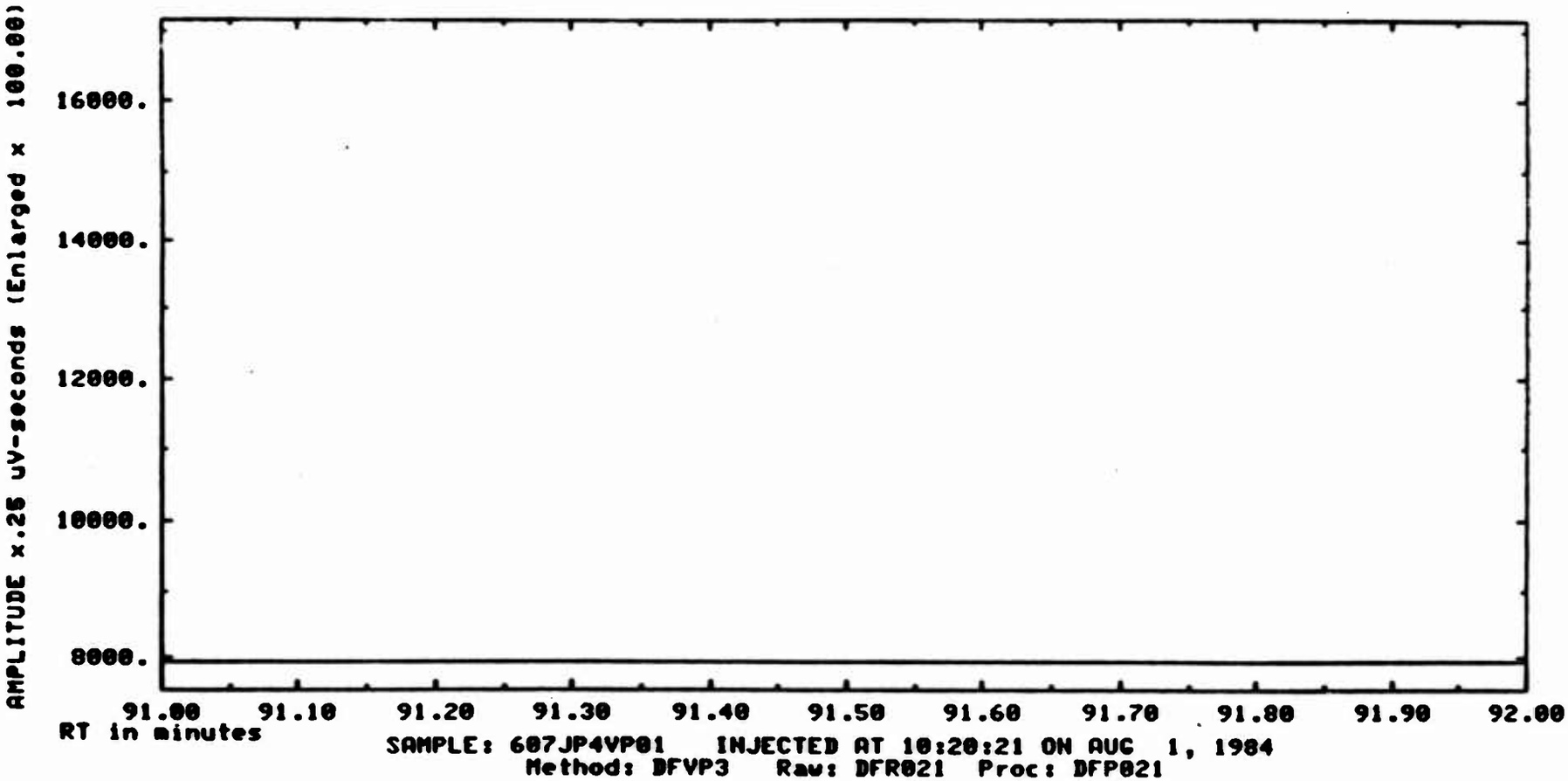
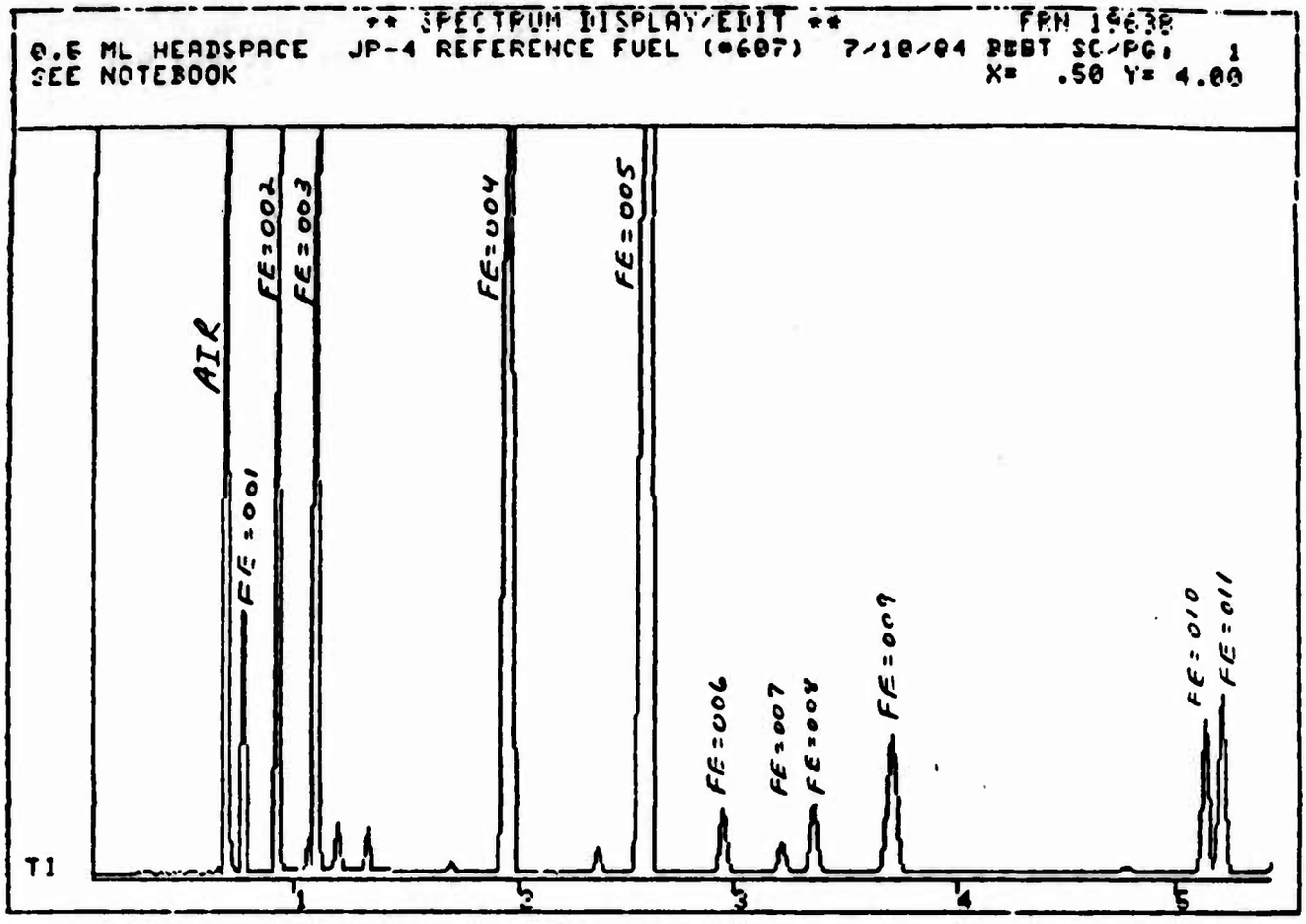


Figure 4 (concluded)



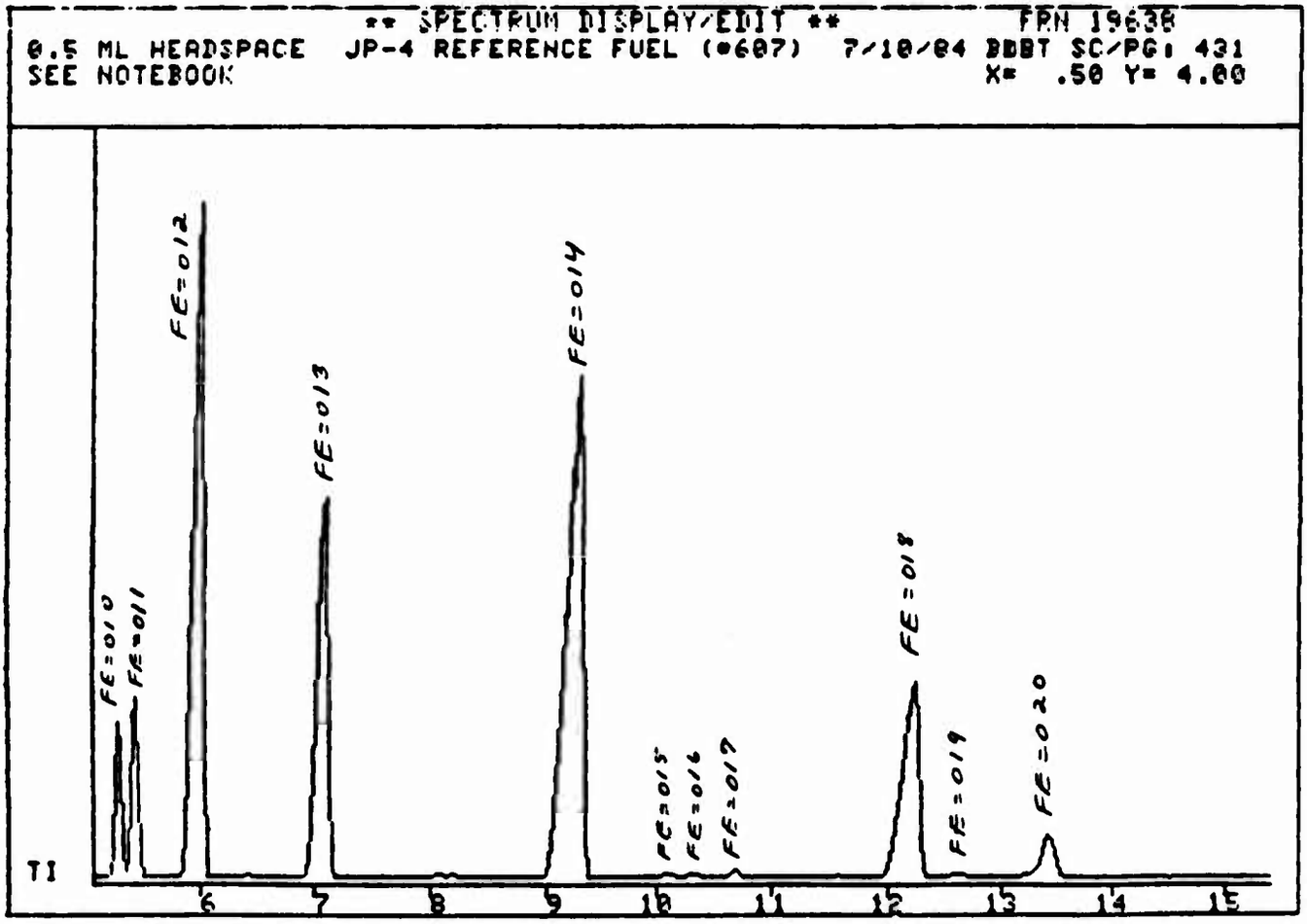
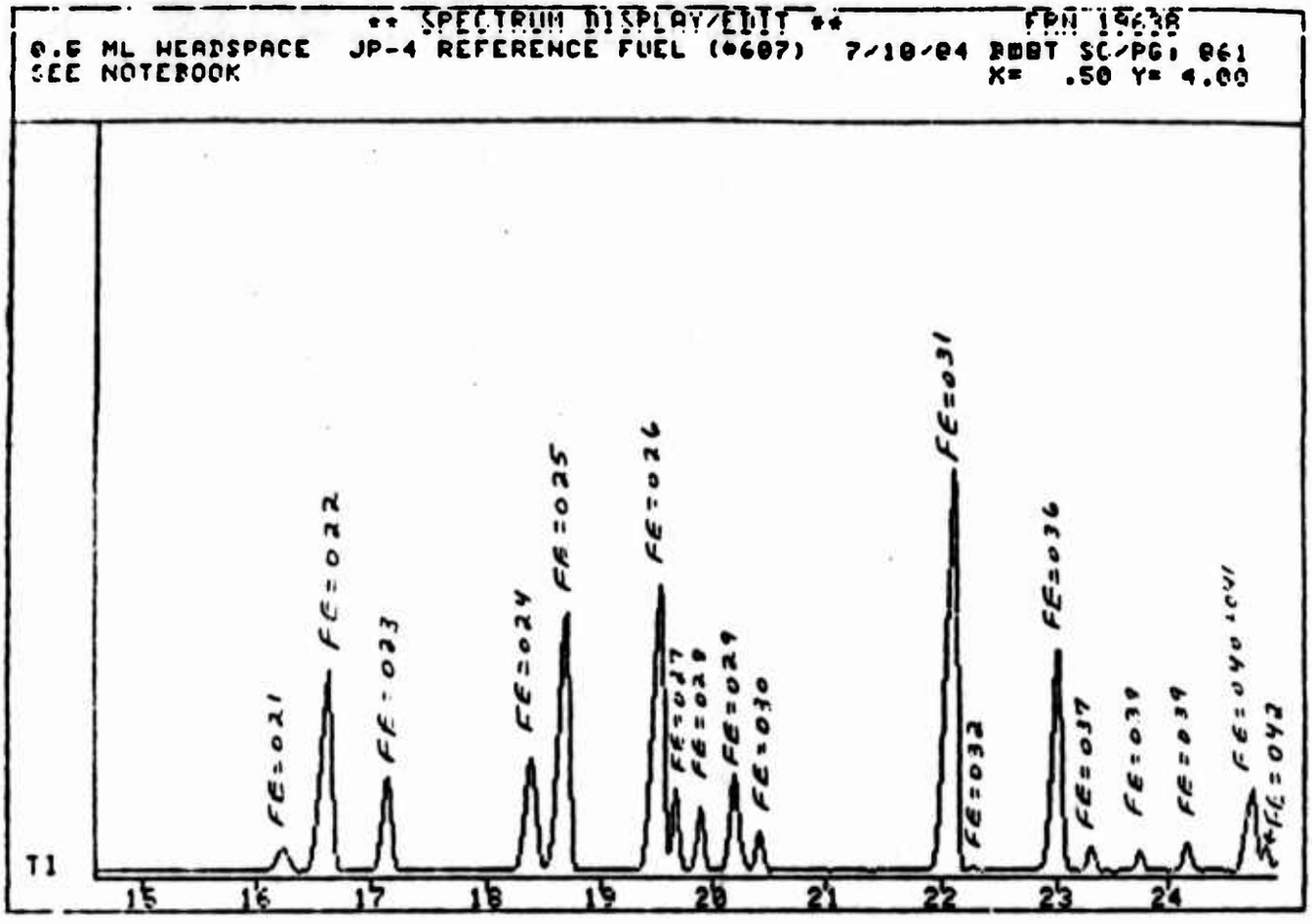


Figure 5. Identifications of Vapor Phase Features for the Reference JP-4 Fuel from GC/MS Analysis.



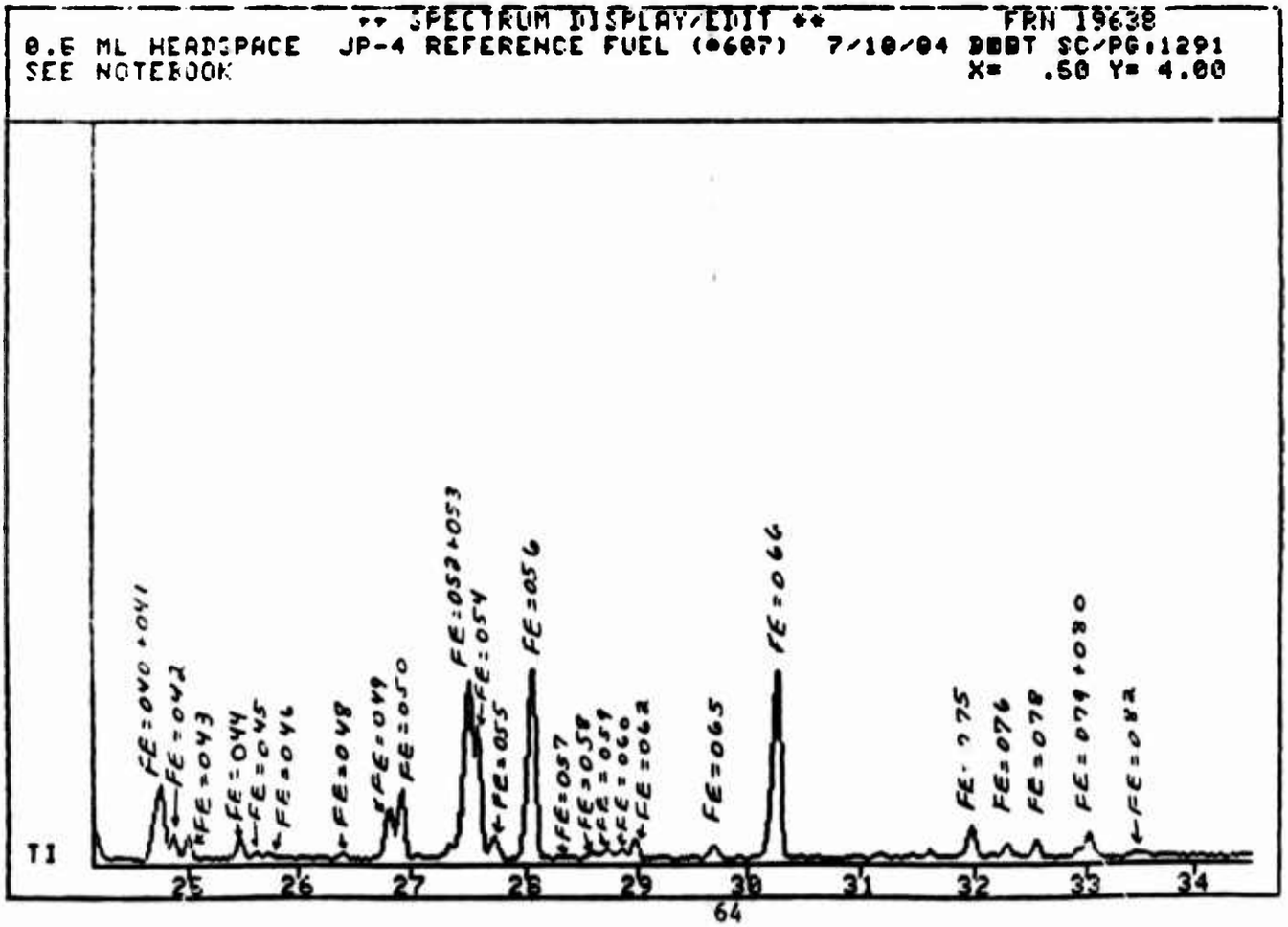
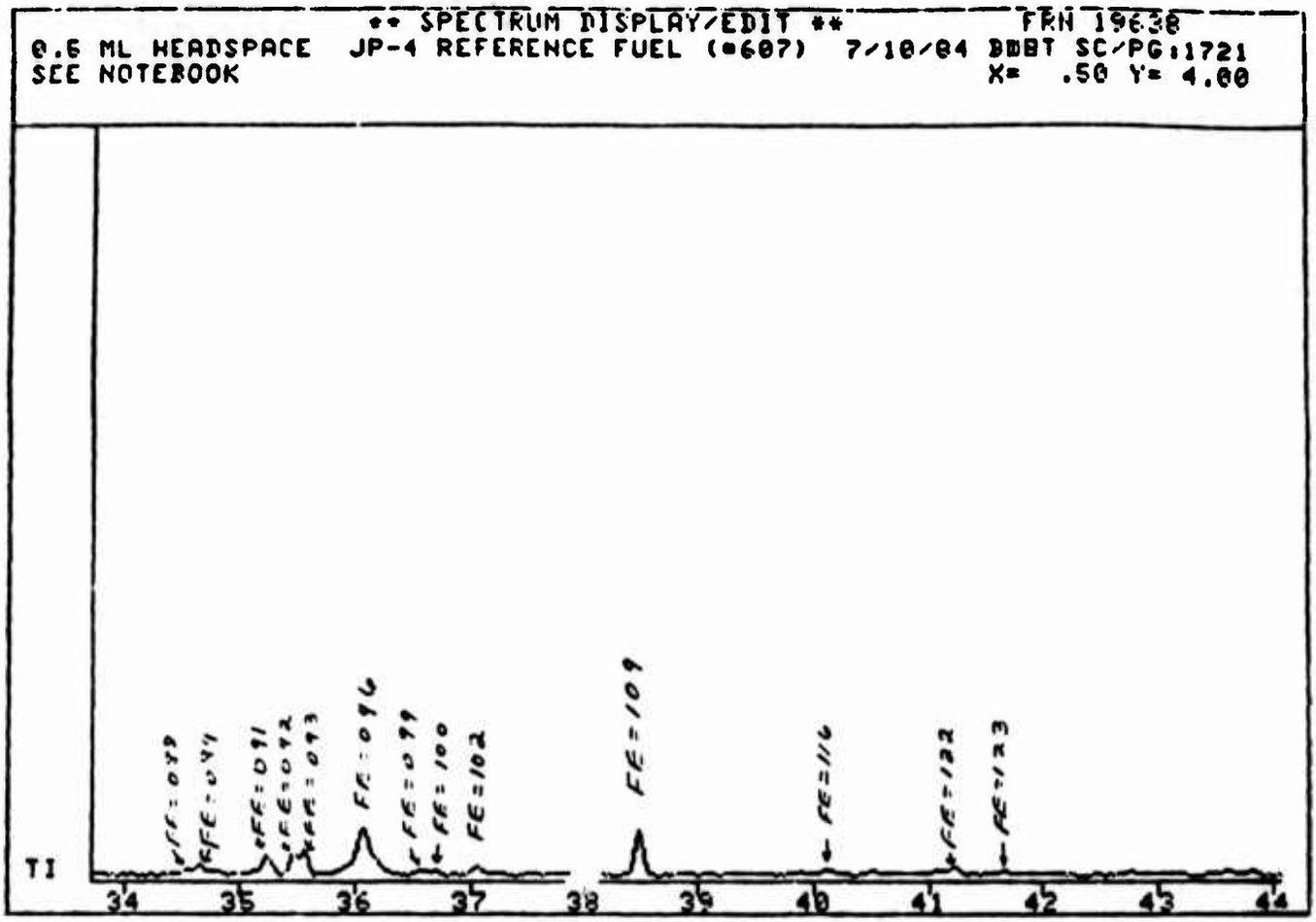


Figure 5 (cont'd)



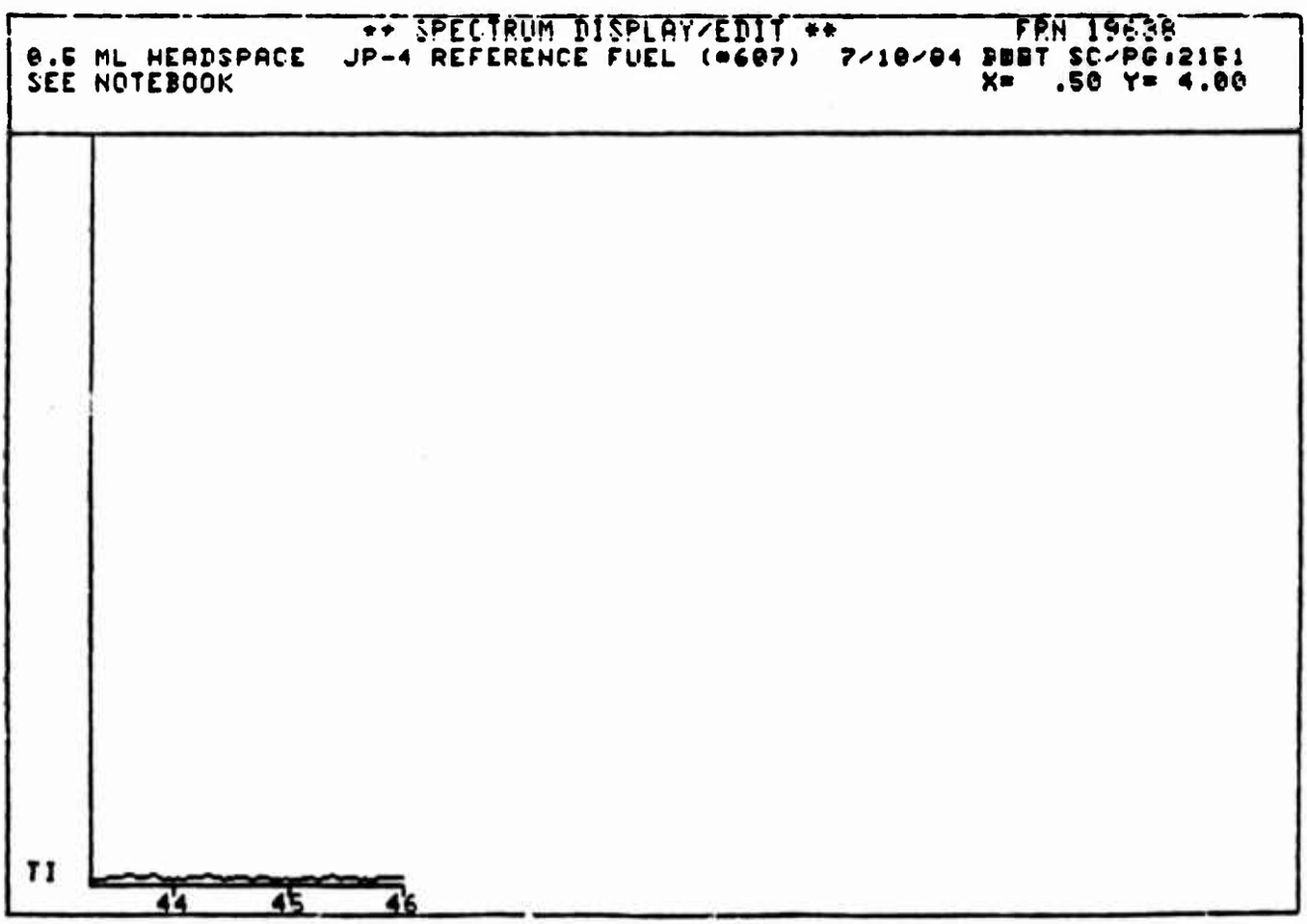
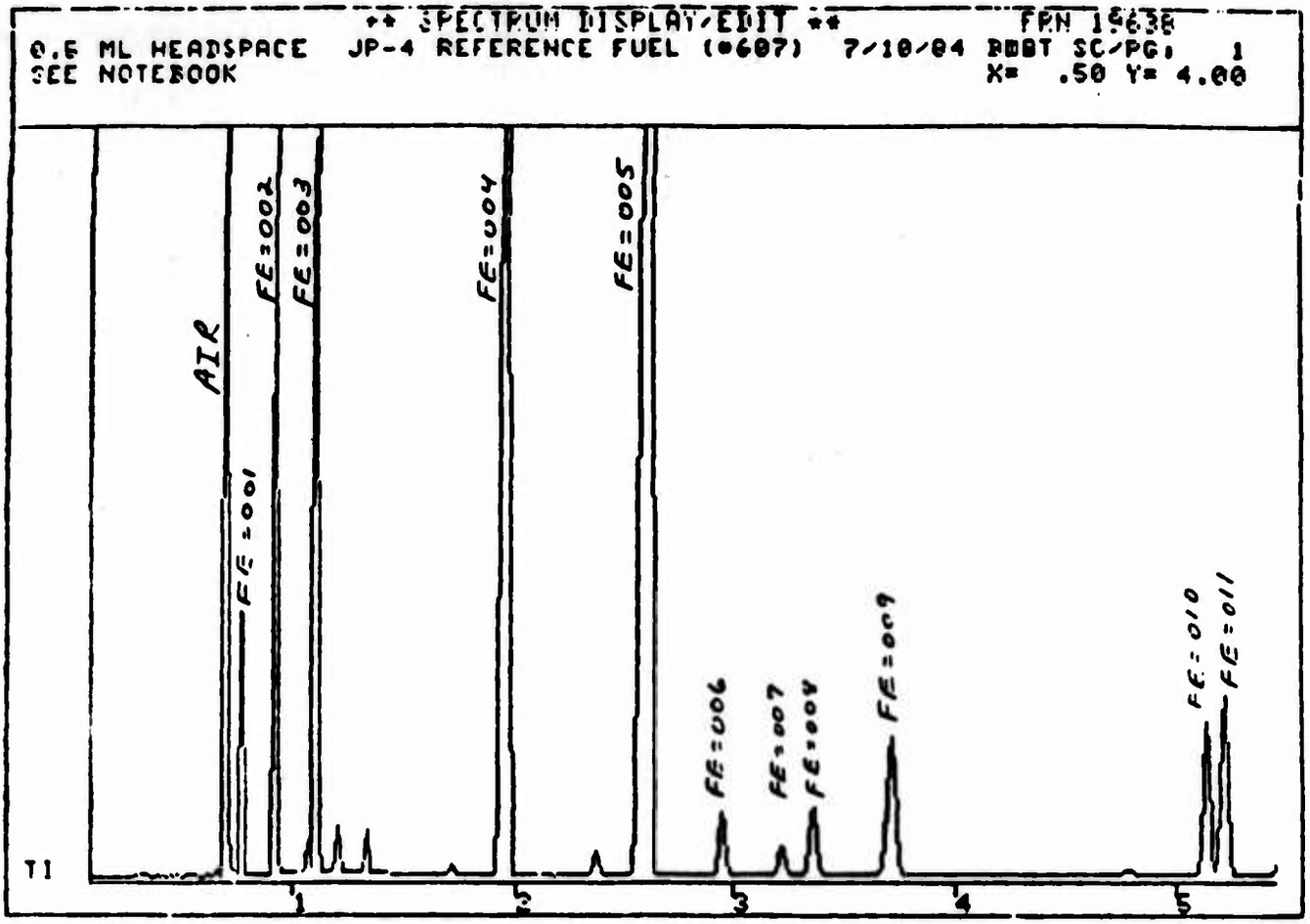


Figure 5 (cont'd)



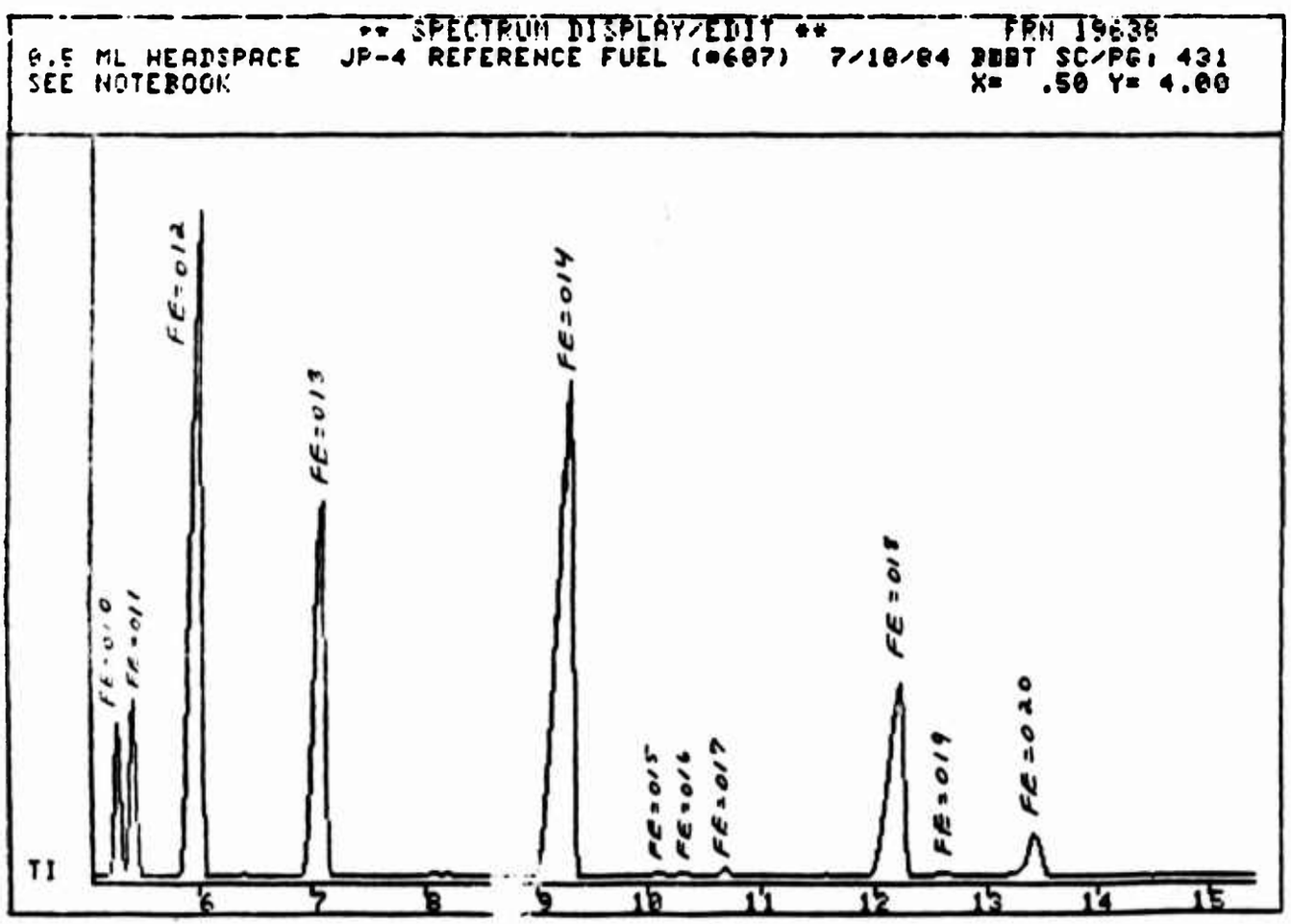
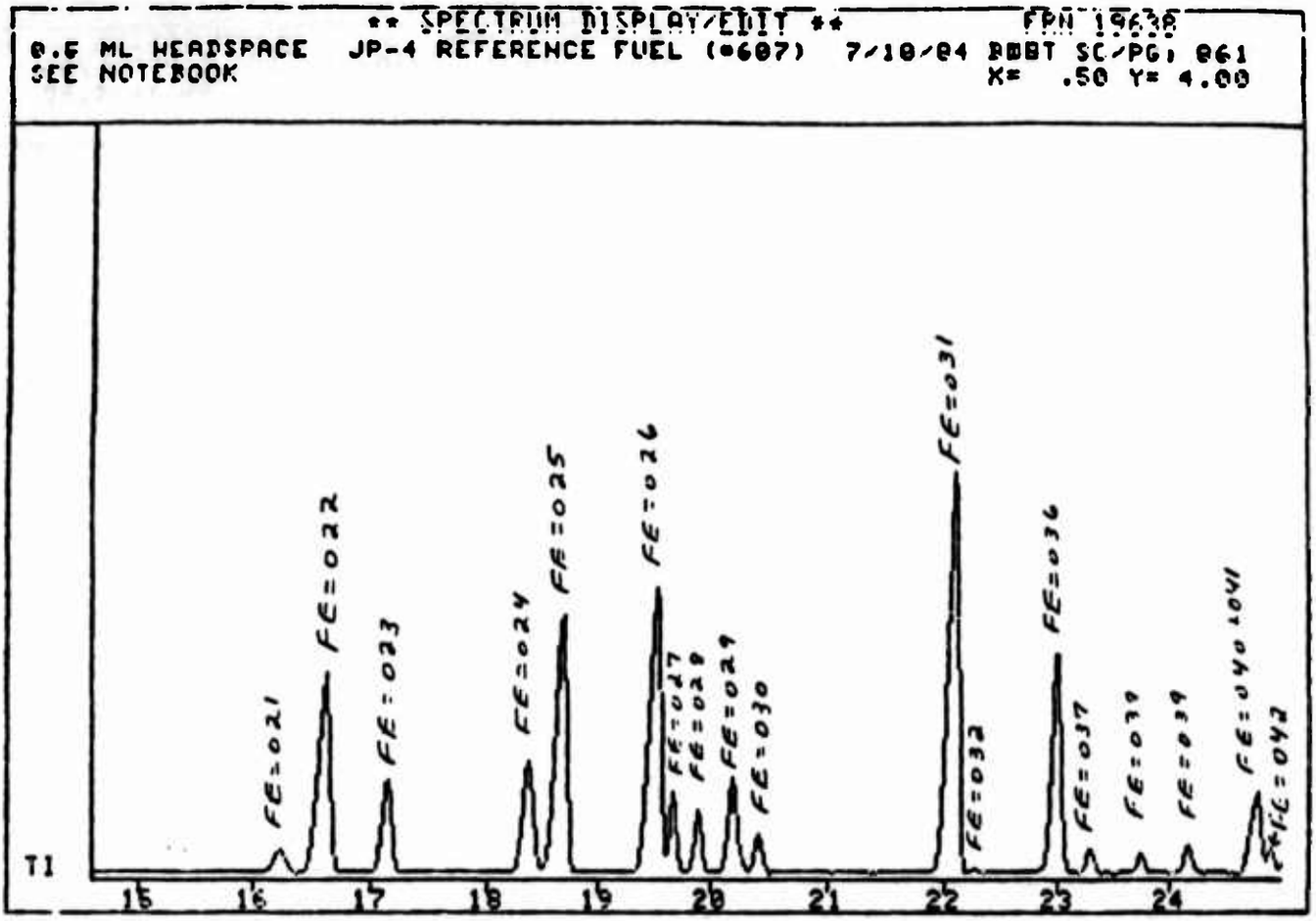


Figure 5 (cont'd)



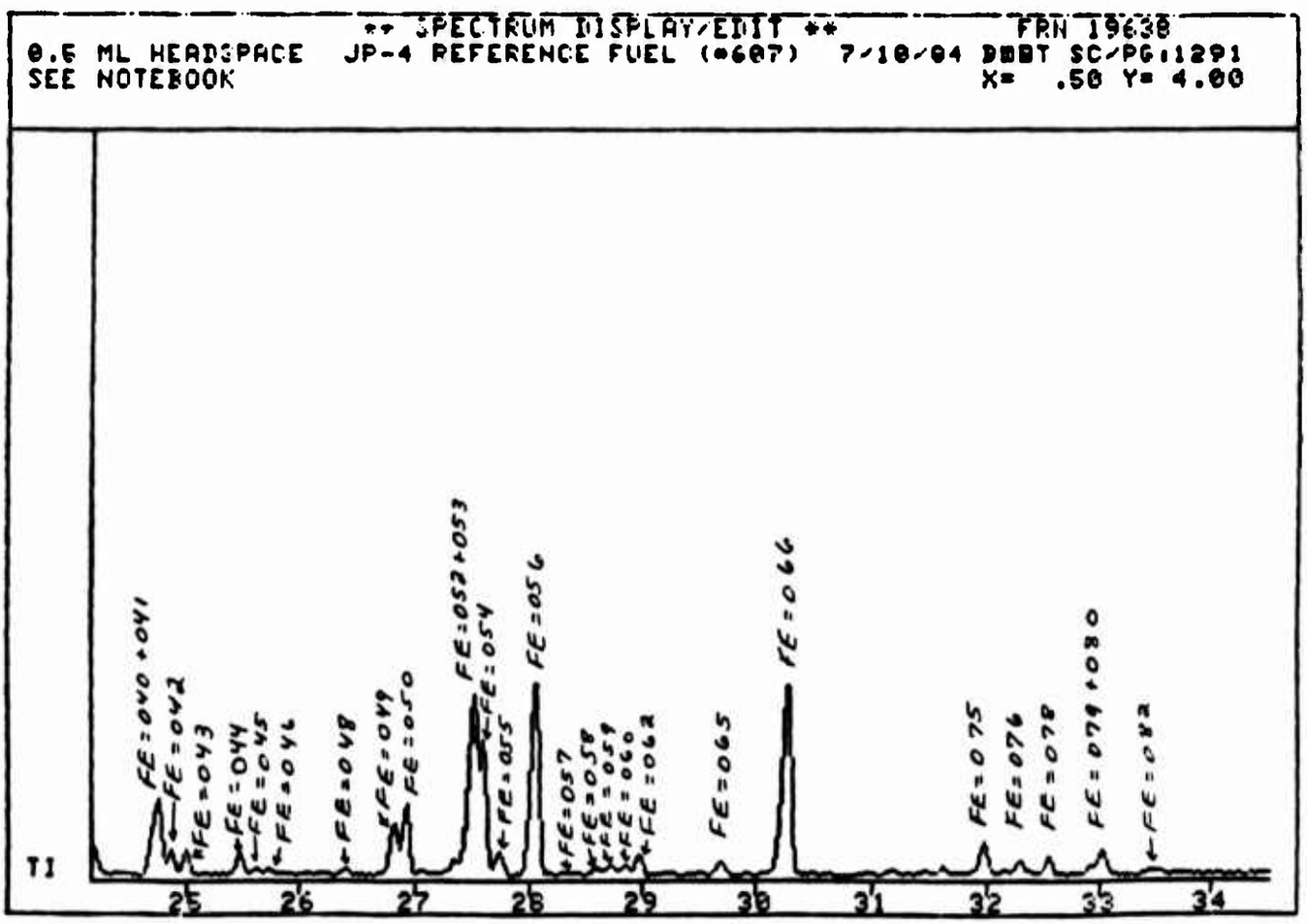
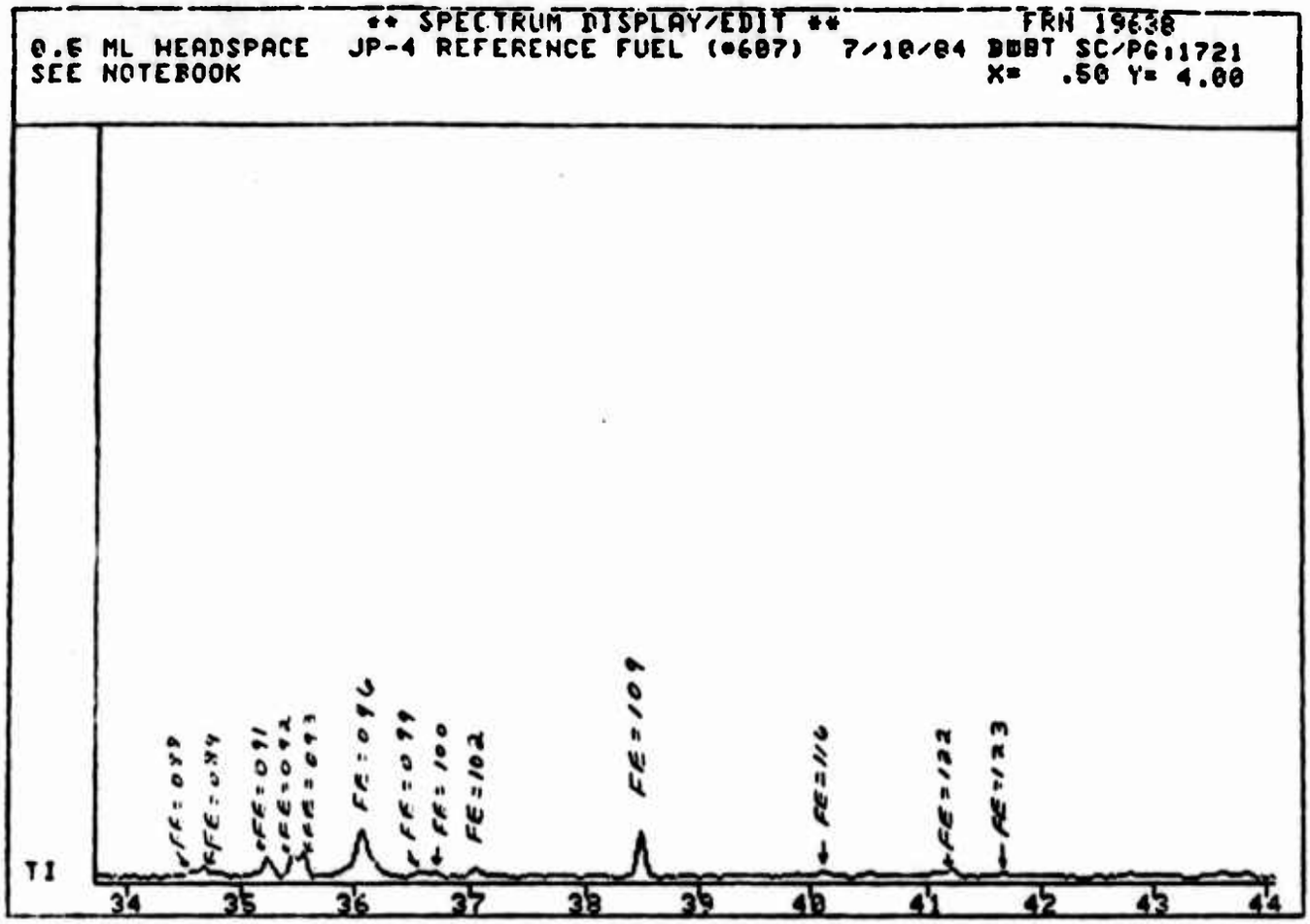


Figure 5 (cont'd)



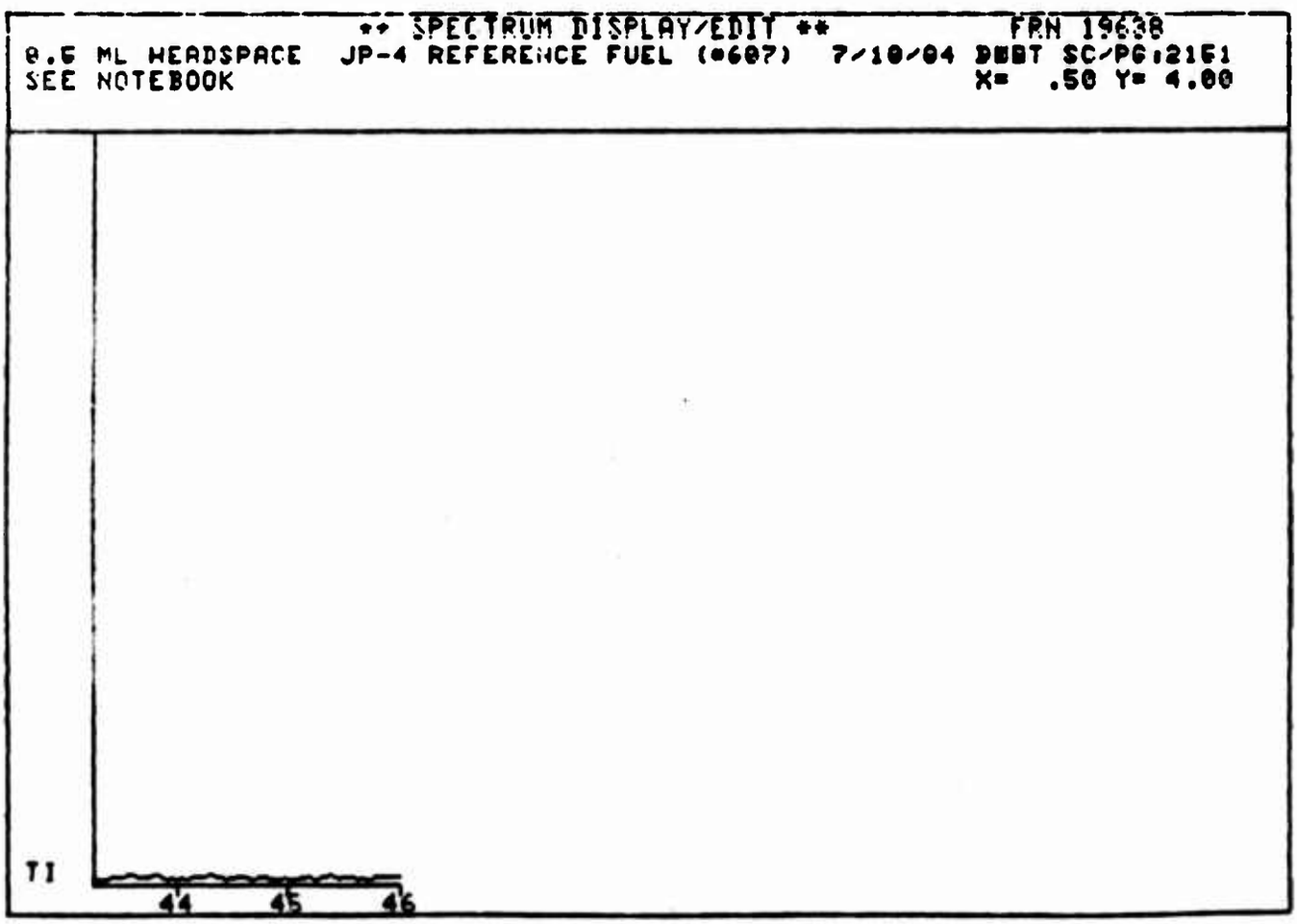


Figure 5 (concluded)

APPENDIX B

TABLE 1. EXTRACTION SCHEME USED FOR THE DETERMINATION OF VARIABILITY OF WATER SOLUBLE COMPONENTS

DISTILLATE FUELS
WATER SOLUBLE COMPONENTS
EXTRACTION SCHEME

Project No: 104.21041

Fuel #_____
Date:_____
Room Temp.:_____

		COMMENTS
---	Place 400 mLs distilled, deionized water + 4 mLs JP-4 sample in a 500 mL separatory funnel.	
---	Swirl gently for 1 minute. (Keep funnel tightly sealed.)	
---	Equilibrate for 24 hours.	TEMPERATURE(C)
---	Quantitatively transfer 40 mLs of the water phase to a 50 mL centrifuge tube w/o disturbing the fuel phase. (Do this step in duplicate.)	
---	Add 2 mLs Carbon disulfide to each tube.	
---	Shake 60 times, releasing pressure only if necessary.	
---	Centrifuge for 1 minute, then equilibrate for 24 hours at room temperature.	TEMPERATURE(C)
---	Pipet 0.800 mL of the CS2 layer into a screw cap vial containing 0.800 mL of the inter al standard using a 1 mL glass pipet. Avoid getting water into the vial.	
---	Seal tightly and label.	TEMPERATURE(C)

Analyst_____
Date_____
Time_____

ESC Extract Identfication_____

TABLE 2. LAS METHOD USED FOR THE QUANTITATIVE DETERMINATION OF CONCENTRATIONS OF WATER SOLUBLE COMPONENTS

DEC 5, 1984 16:50
METHOD: DFABWS ON CRN 20 CREATED: 7:45 ON JAN 24, 1984
CHANNEL 12 MODIFIED: 9:20 ON JUL 23, 1984

1. DATA INPUT

RUNTM #PKS
540.00, 500

MV/MIN DELAY MIN-AR BUNCH
.300, 0.00, 300, NO

INTEGRATOR EVENTS
TIME EVENT
1 /E

CONTROL EVENTS
TIME EVENT ECM RLY
1 /E

2. DATA ANALYSIS

PROC RPRT SUP-UNK
ISTD, ME, NO

UNITS TITLE
ug/L , ABSOLUTE AMOUNTS

REF-RTW %RTW RF-UNK ID-LVL DVT
.050, -.100, 1.0000E+ 0, 300, 0.00

CALIBRATION PEAKS

	TIME	AMOUNT	FACTOR	NAME	
1	36.90,	1.0000E+ 0,	0.0000E+ 0,	IMPURITY #1(KI= 368.3)	
2	37.59,	1.0000E+ 0,	1.0000E+ 0,	KI= 377.2;	FE=001
3	38.73,	1.0000E+ 0,	1.0000E+ 0,	KI= 388.0;	FE=002
4	40.00,	1.0000E+ 0,	1.0000E+ 0,	$400-n-C4-ANE;	FE=003
5	45.70,	1.0000E+ 0,	1.0000E+ 0,	KI= 457.6;	FE=004
6	50.00,	1.0000E+ 0,	1.0000E+ 0,	$500-n-C5-ANE;	FE=005
7	51.28,	1.0000E+ 0,	0.0000E+ 0,	CS2 SOLVENT	
8	55.00,	1.0000E+ 0,	1.0000E+ 0,	KI= 549.7;	FE=010
9	55.17,	1.0000E+ 0,	1.0000E+ 0,	KI= 552.4;	FE=011
10	56.80,	1.0000E+ 0,	1.0000E+ 0,	KI= 560.4;	FE=012
11	58.21,	1.0000E+ 0,	1.0000E+ 0,	KI= 577.3;	FE=013
12	60.00,	1.0000E+ 0,	1.0000E+ 0,	$600-n-C6-ANE;	FE=014
13	60.93,	1.0000E+ 0,	1.0000E+ 0,	KI= 609.2;	FE=015
14	61.14,	1.0000E+ 0,	1.0000E+ 0,	KI= 611.2;	FE=016
15	61.34,	1.0000E+ 0,	1.0000E+ 0,	KI= 613.9;	FE=017
16	62.40.	1.0000E+ 0,	1.0000E+ 0,	KI= 624.8;	FE=018

TABLE 2 (cont'd)

```
17   62.71, 1.0000E+ 0, 1.0000E+ 0, KI= 627.3;        FE=019
18   63.16, 1.0000E+ 0, 1.0000E+ 0, KI= 632.4;        FE=020
19   65.13, 1.0000E+ 0, 1.0000E+ 0, KI= 653.0;        FE=021
20   65.69, 1.0000E+ 0, 1.0000E+ 0, KI= 656.1;        FE=022
21   66.00, 1.0000E+ 0, 1.0000E+ 0, KI= 658.8;        FE=023
22   66.69, 1.0000E+ 0, 0.0000E+ 0, IMPURITY #2(KI= 665.8)
23   66.89, 1.0000E+ 0, 1.0000E+ 0, KI= 669.0;        FE=024
24   66.96, 1.0000E+ 0, 1.0000E+ 0, KI= 670.4;        FE=025
25   67.65, 1.0000E+ 0, 1.0000E+ 0, KI= 677.4;        FE=026
26   68.00, 1.0000E+ 0, 1.0000E+ 0, KI= 679.8;        FE=027
27   68.12, 1.0000E+ 0, 1.0000E+ 0, KI= 682.0;        FE=028
28   68.50, 1.0000E+ 0, 1.0000E+ 0, KI= 684.6;        FE=029
29   68.61, 1.0000E+ 0, 1.0000E+ 0, KI= 685.8;        FE=030
30   70.00, 1.0000E+ 0, 1.0000E+ 0, $700-n-C7-ANE;    FE=031
31   70.10, 1.0000E+ 0, 1.0000E+ 0, KI= 701.8;        FE=032
32   70.53, 1.0000E+ 0, 1.0000E+ 0, KI= 705.0;        FE=033
33   70.74, 1.0000E+ 0, 1.0000E+ 0, KI= 706.7;        FE=034
34   70.84, 1.0000E+ 0, 1.0000E+ 0, KI= 708.0;        FE=035
35   71.30, 1.0000E+ 0, 1.0000E+ 0, KI= 712.5;        FE=036
36   71.60, 1.0000E+ 0, 1.0000E+ 0, KI= 715.6;        FE=037
37   71.92, 1.0000E+ 0, 1.0000E+ 0, KI= 719.1;        FE=038
38   72.63, 1.0000E+ 0, 1.0000E+ 0, KI= 725.8;        FE=039
39   73.07, 1.0000E+ 0, 1.0000E+ 0, KI= 730.0;        FE=040
40   73.14, 1.0000E+ 0, 1.0000E+ 0, KI= 731.0;        FE=041
41   73.38, 1.0000E+ 0, 1.0000E+ 0, KI= 733.6;        FE=042
42   73.54, 1.0000E+ 0, 1.0000E+ 0, KI= 735.0;        FE=043
43   74.14, 1.0000E+ 0, 1.0000E+ 0, KI= 741.2;        FE=044
44   74.33, 1.0000E+ 0, 1.0000E+ 0, KI= 743.3;        FE=045
45   74.50, 1.0000E+ 0, 1.0000E+ 0, KI= 745.4;        FE=046
46   75.01, 1.0000E+ 0, 1.0000E+ 0, KI= 749.9;        FE=047
47   75.41, 1.0000E+ 0, 1.0000E+ 0, KI= 753.9;        FE=048
48   75.71, 1.0000E+ 0, 1.0000E+ 0, KI= 757.1;        FE=049
49   76.00, 1.0000E+ 0, 1.0000E+ 0, KI= 758.8;        FE=050
50   76.23, 1.0000E+ 0, 1.0000E+ 0, KI= 762.0;        FE=051
51   76.46, 1.0000E+ 0, 1.0000E+ 0, KI= 765.3;        FE=052
52   76.59, 1.0000E+ 0, 1.0000E+ 0, KI= 766.4;        FE=053
53   76.88, 1.0000E+ 0, 1.0000E+ 0, KI= 768.8;        FE=054
54   77.02, 1.0000E+ 0, 1.0000E+ 0, KI= 770.6;        FE=055
55   77.17, 1.0000E+ 0, 1.0000E+ 0, KI= 772.4;        FE=056
56   77.51, 1.0000E+ 0, 1.0000E+ 0, KI= 775.2;        FE=057
57   78.10, 1.0000E+ 0, 1.0000E+ 0, KI= 781.0;        FE=058
58   78.34, 1.0000E+ 0, 1.0000E+ 0, KI= 783.2;        FE=059
59   78.44, 1.0000E+ 0, 1.0000E+ 0, KI= 784.4;        FE=060
60   78.53, 1.0000E+ 0, 1.0000E+ 0, KI= 785.4;        FE=061
61   78.72, 1.0000E+ 0, 1.0000E+ 0, KI= 786.9;        FE=062
62   79.09, 1.0000E+ 0, 1.0000E+ 0, KI= 791.1;        FE=063
63   79.50, 1.0000E+ 0, 1.0000E+ 0, KI= 794.4;        FE=064
64   79.60, 1.0000E+ 0, 1.0000E+ 0, KI= 795.7;        FE=065
65   80.00, 1.0000E+ 0, 1.0000E+ 0, $800-n-C8-ANE;    FE=066
```

TABLE 2 (cont'd)

```
 66   80.27, 1.0000E+ 0, 1.0000E+ 0, KI= 802.5;          FE=067
 67   80.60, 1.0000E+ 0, 1.0000E+ 0, KI= 805.7;          FE=068
 68   80.76, 1.0000E+ 0, 1.0000E+ 0, KI= 807.1;          FE=069
 69   80.87, 1.0000E+ 0, 1.0000E+ 0, KI= 808.9;          FE=070
 70   81.25, 1.0000E+ 0, 1.0000E+ 0, KI= 812.3;          FE=071
 71   81.44, 1.0000E+ 0, 1.0000E+ 0, KI= 813.6;          FE=072
 72   81.71, 1.0000E+ 0, 1.0000E+ 0, KI= 817.0;          FE=073
 73   81.85, 1.0000E+ 0, 1.0000E+ 0, KI= 818.2;          FE=074
 74   82.14, 1.0000E+ 0, 1.0000E+ 0, KI= 821.3;          FE=075
 75   82.43, 1.0000E+ 0, 1.0000E+ 0, KI= 824.2;          FE=076
 76   82.60, 1.0000E+ 0, 1.0000E+ 0, KI= 825.7;          FE=077
 77   82.79, 1.0000E+ 0, 1.0000E+ 0, KI= 828.1;          FE=078
 78   83.45, 1.0000E+ 0, 1.0000E+ 0, KI= 834.4;          FE=079
 79   83.69, 1.0000E+ 0, 1.0000E+ 0, KI= 837.0;          FE=080
 80   84.08, 1.0000E+ 0, 1.0000E+ 0, KI= 840.8;          FE=081
 81   84.28, 1.0000E+ 0, 1.0000E+ 0, KI= 842.7;          FE=082
 82   84.42, 1.0000E+ 0, 1.0000E+ 0, KI= 844.2;          FE=083
 83   84.62, 1.0000E+ 0, 1.0000E+ 0, KI= 846.2;          FE=084
 84   84.92, 1.0000E+ 0, 1.0000E+ 0, KI= 848.2;          FE=085
 85   85.23, 1.0000E+ 0, 1.0000E+ 0, KI= 850.9;          FE=086
 86   85.41, 1.0000E+ 0, 1.0000E+ 0, KI= 852.8;          FE=087
 87   85.52, 1.0000E+ 0, 1.0000E+ 0, KI= 854.4;          FE=088
 88   85.63, 1.0000E+ 0, 1.0000E+ 0, KI= 856.1;          FE=089
 89   85.93, 1.0000E+ 0, 1.0000E+ 0, KI= 860.0;          FE=090
 90   86.30, 1.0000E+ 0, 1.0000E+ 0, KI= 862.2;          FE=091
 91   86.41, 1.0000E+ 0, 1.0000E+ 0, KI= 863.8;          FE=092
 92   86.50, 1.0000E+ 0, 1.0000E+ 0, KI= 865.0;          FE=093
 93   86.70, 1.0000E+ 0, 1.0000E+ 0, KI= 867.4;          FE=094
 94   86.89, 1.0000E+ 0, 1.0000E+ 0, KI= 869.5;          FE=095
 95   87.07, 1.0000E+ 0, 1.0000E+ 0, KI= 871.2;          FE=096
 96   87.30, 1.0000E+ 0, 1.0000E+ 0, KI= 873.1;          FE=097
 97   87.70, 1.0000E+ 0, 1.0000E+ 0, KI= 877.1;          FE=098
 98   88.02, 1.0000E+ 0, 1.0000E+ 0, KI= 880.0;          FE=099
 99   88.18, 1.0000E+ 0, 1.0000E+ 0, KI= 881.6;          FE=100
100   88.60, 1.0000E+ 0, 1.0000E+ 0, KI= 884.5;          FE=102
101   88.75, 1.0000E+ 0, 1.0000E+ 0, KI= 887.4;          FE=103
102   89.13, 1.0000E+ 0, 1.0000E+ 0, KI= 890.9;          FE=104
103   89.26, 1.0000E+ 0, 1.0000E+ 0, KI= 892.6;          FE=105
104   89.48, 1.0000E+ 0, 1.0000E+ 0, KI= 894.6;          FE=106
105   89.64, 1.0000E+ 0, 1.0000E+ 0, KI= 895.9;          FE=107
106   89.85, 1.0000E+ 0, 1.0000E+ 0, KI= 897.6;          FE=108
107   90.00, 1.0000E+ 0, 1.0000E+ 0, $900-n-C9-ANE;      FE=109
108   90.21, 1.0000E+ 0, 1.0000E+ 0, KI= 901.3;          FE=110
109   90.94, 1.0000E+ 0, 1.0000E+ 0, KI= 908.4;          FE=112
110   90.99, 1.0000E+ 0, 1.0000E+ 0, KI= 910.8;          FE=113
111   91.17, 1.0000E+ 0, 1.0000E+ 0, KI= 913.9;          FE=114
112   91.42, 1.0000E+ 0, 1.0000E+ 0, KI= 915.4;          FE=115
113   91.75, 1.0000E+ 0, 1.0000E+ 0, KI= 917.7;          FE=116
114   92.01, 1.0000E+ 0, 1.0000E+ 0, KI= 920.1;          FE=117
```

TABLE 2 (cont'd)

```
115   92.32, 1.0000E+ 0, 1.0000E+ 0, KI= 922.6;       FE=118
116   92.47, 1.0000E+ 0, 1.0000E+ 0, KI= 924.7;       FE=119
117   92.91, 1.0000E+ 0, 1.0000E+ 0, KI= 929.1;       FE=120
118   93.34, 1.0000E+ 0, 1.0000E+ 0, KI= 933.5;       FE=122
119   93.93, 1.0000E+ 0, 1.0000E+ 0, KI= 939.4;       FE=123
120   94.10, 1.0000E+ 0, 1.0000E+ 0, KI= 941.0;       FE=124
121   94.55, 1.0000E+ 0, 1.0000E+ 0, KI= 945.3;       FE=125
122   94.88, 1.0000E+ 0, 1.0000E+ 0, KI= 947.4;       FE=126
123   95.21, 1.0000E+ 0, 1.0000E+ 0, KI= 952.0;       FE=127
124   95.34, 1.0000E+ 0, 1.0000E+ 0, KI= 953.5;       FE=128
125   95.73, 1.0000E+ 0, 1.0000E+ 0, KI= 955.8;       FE=129
126   95.83, 1.0000E+ 0, 1.0000E+ 0, KI= 956.8;       FE=130
127   96.01, 1.0000E+ 0, 1.0000E+ 0, KI= 960.5;       FE=131
128   96.15, 1.0000E+ 0, 1.0000E+ 0, KI= 962.1;       FE=132
129   96.38, 1.0000E+ 0, 1.0000E+ 0, KI= 964.7;       FE=133
130   96.69, 1.0000E+ 0, 1.0000E+ 0, KI= 966.1;       FE=134
131   96.77, 1.0000E+ 0, 1.0000E+ 0, KI= 967.4;       FE=135
132   97.05, 1.0000E+ 0, 1.0000E+ 0, KI= 970.8;       FE=136
133   97.39, 1.0000E+ 0, 1.0000E+ 0, KI= 972.7;       FE=137
134   97.48, 1.0000E+ 0, 1.0000E+ 0, KI= 974.9;       FE=138
135   97.68, 1.0000E+ 0, 1.0000E+ 0, KI= 976.9;       FE=139
136   97.90, 1.0000E+ 0, 1.0000E+ 0, KI= 979.2;       FE=140
137   98.02, 1.0000E+ 0, 1.0000E+ 0, KI= 980.2;       FE=141
138   98.13, 1.0000E+ 0, 1.0000E+ 0, KI= 981.7;       FE=142
139   98.37, 1.0000E+ 0, 1.0000E+ 0, KI= 983.3;       FE=143
140   98.70, 1.0000E+ 0, 1.0000E+ 0, KI= 986.2;       FE=144
141   98.92, 1.0000E+ 0, 1.0000E+ 0, KI= 989.0;       FE=145
142   99.38, 1.0000E+ 0, 1.0000E+ 0, KI= 993.5;       FE=146
143   99.54, 1.0000E+ 0, 1.0000E+ 0, KI= 995.3;       FE=147
144   99.69, 1.0000E+ 0, 1.0000E+ 0, KI= 996.8;       FE=148
145  100.00, 1.0000E+ 0, 1.0000E+ 0, $1000-n-C10-ANE;FE=149
146  100.53, 1.0000E+ 0, 1.0000E+ 0, KI=1003.9;       FE=150
147  100.93, 1.0000E+ 0, 1.0000E+ 0, KI=1009.0;       FE=151
148  101.00, 1.0000E+ 0, 0.0000E+ 0, IMPURITY #3(KI=1010.3)
149  101.55, 1.0000E+ 0, 1.0000E+ 0, KI=1013.9;       FE=152
150  101.70, 1.0000E+ 0, 1.0000E+ 0, KI=1017.0;       FE=153
151  101.88, 1.0000E+ 0, 1.0000E+ 0, KI=1019.3;       FE=154
152  102.02, 1.0000E+ 0, 1.0000E+ 0, KI=1020.1;       FE=155
153  102.27, 1.0000E+ 0, 1.0000E+ 0, KI=1022.9;       FE=156
154  102.62, 1.0000E+ 0, 1.0000E+ 0, KI=1025.8;       FE=157
155  102.78, 1.0000E+ 0, 1.0000E+ 0, KI=1028.4;       FE=158
156  103.20, 1.0000E+ 0, 1.0000E+ 0, KI=1031.6;       FE=159
157  103.32, 1.0000E+ 0, 1.0000E+ 0, KI=1033.4;       FE=160
158  103.42, 1.0000E+ 0, 1.0000E+ 0, KI=1034.6;       FE=161
159  103.63, 1.0000E+ 0, 1.0000E+ 0, KI=1036.6;       FE=162
160  103.83, 1.0000E+ 0, 1.0000E+ 0, KI=1038.5;       FE=163
161  104.00, 1.0000E+ 0, 1.0000E+ 0, KI=1040.6;       FE=164
162  104.39, 1.0000E+ 0, 1.0000E+ 0, KI=1043.2;       FE=165
163  104.63, 1.0000E+ 0, 1.0000E+ 0, KI=1044.7;       FE=166
```

TABLE 2 (cont'd)

```
164  104.77, 1.0000E+ 0, 1.0000E+ 0, KI=1046.4;        FE=167
165  105.08, 1.0000E+ 0, 1.0000E+ 0, KI=1049.4;        FE=168
166  105.17, 1.0000E+ 0, 1.0000E+ 0, KI=1050.6;        FE=169
167  105.50, 1.0000E+ 0, 1.0000E+ 0, KI=1053.8;        FE=170
168  105.75, 1.0000E+ 0, 1.0000E+ 0, KI=1055.3;        FE=171
169  106.05, 1.0000E+ 0, 1.0000E+ 0, KI=1057.9;        FE=173
170  106.42, 1.0000E+ 0, 1.0000E+ 0, KI=1060.8;        FE=174
171  107.03, 1.0000E+ 0, 1.0000E+ 0, KI=1064.6;        FE=175
172  107.17, 1.0000E+ 0, 1.0000E+ 0, KI=1066.2;        FE=176
173  107.34, 1.0000E+ 0, 1.0000E+ 0, KI=1070.6;        FE=177
174  107.44, 1.0000E+ 0, 1.0000E+ 0, KI=1072.8;        FE=178
175  108.06, 1.0000E+ 0, 1.0000E+ 0, KI=1079.0;        FE=179
176  108.47, 1.0000E+ 0, 1.0000E+ 0, KI=1081.6;        FE=180
177  108.62, 1.0000E+ 0, 1.0000E+ 0, KI=1084.3;        FE=181
178  108.79, 1.0000E+ 0, 1.0000E+ 0, KI=1087.2;        FE=182
179  109.03, 1.0000E+ 0, 1.0000E+ 0, KI=1089.4;        FE=183
180  109.12, 1.0000E+ 0, 1.0000E+ 0, KI=1090.8;        FE=184
181  109.42, 1.0000E+ 0, 1.0000E+ 0, KI=1093.8;        FE=185
182  109.77, 1.0000E+ 0, 1.0000E+ 0, KI=1096.0;        FE=186
183  110.00, 1.0000E+ 0, 1.0000E+ 0, $1100-n-C11-ANE;FE=187
184  110.21, 1.0000E+ 0, 1.0000E+ 0, KI=1101.7;        FE=188
185  110.51, 1.0000E+ 0, 1.0000E+ 0, KI=1104.4;        FE=189
186  110.73, 1.0000E+ 0, 1.0000E+ 0, KI=1106.6;        FE=190
187  111.03, 1.0000E+ 0, 1.0000E+ 0, KI=1108.4;        FE=191
188  111.23, 1.0000E+ 0, 1.0000E+ 0, KI=1110.3;        FE=192
189  111.40, 1.0000E+ 0, 1.0000E+ 0, KI=1112.6;        FE=193
190  111.62, 1.0000E+ 0, 1.0000E+ 0, KI=1115.8;        FE=194
191  111.82, 1.0000E+ 0, 1.0000E+ 0, KI=1117.7;        FE=195
192  112.02, 1.0000E+ 0, 1.0000E+ 0, KI=1119.7;        FE=196
193  112.31, 1.0000E+ 0, 1.0000E+ 0, KI=1123.4;        FE=198
194  112.66, 1.0000E+ 0, 1.0000E+ 0, KI=1127.0;        FE=199
195  112.96, 1.0000E+ 0, 1.0000E+ 0, KI=1129.4;        FE=200
196  113.22, 1.0000E+ 0, 1.0000E+ 0, KI=1132.7;        FE=201
197  113.29, 1.0000E+ 0, 1.0000E+ 0, KI=1133.7;        FE=202
198  113.39, 1.0000E+ 0, 1.0000E+ 0, KI=1135.0;        FE=203
199  113.52, 1.0000E+ 0, 1.0000E+ 0, KI=1137.1;        FE=204
200  114.32, 1.0000E+ 0, 1.0000E+ 0, KI=1139.7;        FE=205
201  114.61, 1.0000E+ 0, 1.0000E+ 0, KI=1141.0;        FE=206
202  114.98, 1.0000E+ 0, 1.0000E+ 0, KI=1144.0;        FE=207
203  115.47, 1.0000E+ 0, 1.0000E+ 0, KI=1148.3;        FE=208
204  115.54, 1.0000E+ 0, 1.0000E+ 0, KI=1149.8;        FE=209
205  115.62, 1.0000E+ 0, 1.0000E+ 0, KI=1152.6;        FE=210
206  115.80, 1.0000E+ 0, 1.0000E+ 0, KI=1155.0;        FE=211
207  115.99, 1.0000E+ 0, 1.0000E+ 0, KI=1156.1;        FE=212
208  116.20, 1.0000E+ 0, 1.0000E+ 0, KI=1158.0;        FE=213
209  116.41, 1.0000E+ 0, 1.0000E+ 0, KI=1159.8;        FE=214
210  116.70, 1.0000E+ 0, 1.0000E+ 0, KI=1161.8;        FE=215
211  117.05, 1.0000E+ 0, 1.0000E+ 0, KI=1164.2;        FE=216
212  117.56, 1.0000E+ 0, 1.0000E+ 0, KI=1170.4;        FE=217
```

TABLE 2 (cont'd)

```
213  117.74,  1.0000E+ 0,  1.0000E+ 0,  KI=1171.4;        FE=218
214  118.13,  1.0000E+ 0,  1.0000E+ 0,  KI=1175.9;        FE=219
215  118.21,  1.0000E+ 0,  1.0000E+ 0,  KI=1179.7;        FE=220
216  118.40,  1.0000E+ 0,  1.0000E+ 0,  KI=1181.4;        FE=221
217  118.84,  1.0000E+ 0,  1.0000E+ 0,  KI=1185.3;        FE=222
218  119.18,  1.0000E+ 0,  1.0000E+ 0,  KI=1189.6;        FE=223
219  119.42,  1.0000E+ 0,  1.0000E+ 0,  KI=1191.5;        FE=224
220  119.58,  1.0000E+ 0,  1.0000E+ 0,  KI=1193.9;        FE=225
221  119.74,  1.0000E+ 0,  1.0000E+ 0,  KI=1195.4;        FE=226
222  120.00,  1.0000E+ 0,  1.0000E+ 0,  $1200-n-C12-ANE;FE=227
223  120.36,  1.0000E+ 0,  1.0000E+ 0,  KI=1203.4;        FE=228
224  120.64,  1.0000E+ 0,  1.0000E+ 0,  KI=1205.6;        FE=229
225  120.71,  1.0000E+ 0,  1.0000E+ 0,  KI=1207.2;        FE=230
226  121.07,  1.0000E+ 0,  1.0000E+ 0,  KI=1210.9;        FE=231
227  121.41,  1.0000E+ 0,  1.0000E+ 0,  KI=1214.2;        FE=232
228  121.81,  1.0000E+ 0,  1.0000E+ 0,  KI=1218.2;        FE=233
229  122.02,  1.0000E+ 0,  1.0000E+ 0,  KI=1220.0;        FE=234
230  122.18,  1.0000E+ 0,  1.0000E+ 0,  KI=1221.7;        FE=235
231  122.40,  1.0000E+ 0,  1.0000E+ 0,  KI=1224.3;        FE=236
232  122.78,  1.0000E+ 0,  1.0000E+ 0,  KI=1227.8;        FE=237
233  123.44,  1.0000E+ 0,  1.0000E+ 0,  KI=1233.9;        FE=238
234  123.92,  1.0000E+ 0,  1.0000E+ 0,  KI=1238.6;        FE=239
235  124.58,  1.0000E+ 0,  1.0000E+ 0,  KI=1241.7;        FE=240
236  124.95,  1.0000E+ 0,  1.0000E+ 0,  KI=1245.4;        FE=241
237  125.26,  1.0000E+ 0,  1.0000E+ 0,  KI=1248.5;        FE=242
238  125.44,  1.0000E+ 0,  1.0000E+ 0,  KI=1252.8;        FE=243
239  125.65,  1.0000E+ 0,  1.0000E+ 0,  KI=1254.8;        FE=244
240  125.89,  1.0000E+ 0,  1.0000E+ 0,  KI=1259.3;        FE=245
241  126.36,  1.0000E+ 0,  1.0000E+ 0,  KI=1264.0;        FE=246
242  126.77,  1.0000E+ 0,  1.0000E+ 0,  KI=1267.6;        FE=247
243  126.98,  1.0000E+ 0,  1.0000E+ 0,  KI=1270.2;        FE=248
244  127.24,  1.0000E+ 0,  1.0000E+ 0,  KI=1273.1;        FE=249
245  127.48,  1.0000E+ 0,  1.0000E+ 0,  KI=1276.1;        FE=250
246  127.76,  1.0000E+ 0,  1.0000E+ 0,  KI=1277.5;        FE=251
247  128.50,  1.0000E+ 0,  1.0000E+ 0,  KI=1282.7;        FE=253
248  128.70,  1.0000E+ 0,  1.0000E+ 0,  KI=1285.6;        FE=254
249  129.08,  1.0000E+ 0,  1.0000E+ 0,  KI=1288.3;        FE=255
250  129.66,  1.0000E+ 0,  1.0000E+ 0,  KI=1294.2;        FE=256
251  130.00,  1.0000E+ 0,  1.0000E+ 0,  $1300-n-C13-ANE;FE=257
252  130.20,  1.0000E+ 0,  1.0000E+ 0,  KI=1304.4;        FE=258
253  131.18,  1.0000E+ 0,  1.0000E+ 0,  KI=1309.6;        FE=259
254  131.26,  1.0000E+ 0,  1.0000E+ 0,  KI=1311.5;        FE=260
255  131.81,  1.0000E+ 0,  1.0000E+ 0,  KI=1318.0;        FE=262
256  132.76,  1.0000E+ 0,  1.0000E+ 0,  KI=1323.1;        FE=263
257  133.00,  1.0000E+ 0,  1.0000E+ 0,  KI=1328.0;        FE=264
258  133.52,  1.0000E+ 0,  1.0000E+ 0,  KI=1333.4;        FE=265
259  133.89,  1.0000E+ 0,  1.0000E+ 0,  KI=1338.4;        FE=266
260  134.30,  1.0000E+ 0,  1.0000E+ 0,  KI=1342.2;        FE=267
261  134.50,  1.0000E+ 0,  1.0000E+ 0,  KI=1344.5;        FE=268
```

TABLE 2 (concluded)

```
262  134.80, 1.0000E+ 0, 1.0000E+ 0, KI=1347.5;       FE=269
263  135.14, 1.0000E+ 0, 1.0000E+ 0, KI=1351.1;       FE=270
264  135.43, 1.0000E+ 0, 1.0000E+ 0, KI=1354.0;       FE=271
265  135.90, 1.0000E+ 0, 1.0000E+ 0, KI=1358.9;       FE=272
266  136.41, 1.0000E+ 0, 1.0000E+ 0, KI=1364.0;       FE=273
267  137.06, 1.0000E+ 0, 1.0000E+ 0, KI=1370.3;       FE=274
268  137.67, 1.0000E+ 0, 1.0000E+ 0, KI=1376.7;       FE=275
269  138.66, 1.0000E+ 0, 1.0000E+ 0, KI=1383.0;       FE=276
270  138.93, 1.0000E+ 0, 1.0000E+ 0, KI=1388.6;       FE=277
271  139.65, 1.0000E+ 0, 1.0000E+ 0, KI=1393.4;       FE=278
272  140.00, 1.0000E+ 0, 1.0000E+ 0, $1400-n-C14-ANE;FE=279
273  140.34, 1.0000E+ 0, 1.0000E+ 0, KI=1404.0;       FE=280
274  141.00, 1.0000E+ 0, 1.0000E+ 0, KI=1407.9;       FE=281
275  141.31, 1.0000E+ 0, 1.0000E+ 0, KI=1411.1;       FE=282
276  141.45, 1.0000E+ 0, 1.0000E+ 0, KI=1413.6;       FE=283
277  142.52, 1.0000E+ 0, 1.0000E+ 0, KI=1422.0;       FE=285
278  142.96, 1.0000E+ 0, 1.0000E+ 0, KI=1427.2;       FE=286
279  143.04, 1.0000E+ 0, 1.0000E+ 0, KI=1430.3;       FE=287
280  143.47, 1.0000E+ 0, 1.0000E+ 0, KI=1434.1;       FE=288
281  144.40, 1.0000E+ 0, 1.0000E+ 0, KI=1443.2;       FE=289
282  144.62, 1.0000E+ 0, 1.0000E+ 0, KI=1446.1;       FE=290
283  144.99, 1.0000E+ 0, 1.0000E+ 0, KI=1450.5;       FE=291
284  145.30, 1.0000E+ 0, 1.0000E+ 0, KI=1453.4;       FE=292
285  145.83, 1.0000E+ 0, 1.0000E+ 0, KI=1458.7;       FE=293
286  146.19, 1.0000E+ 0, 1.0000E+ 0, KI=1462.7;       FE=294
287  147.04, 1.0000E+ 0, 1.0000E+ 0, KI=1470.7;       FE=295
288  150.00, 1.0000E+ 0, 1.0000E+ 0, $1500-n-C15-ANE;FE=296
289  150.59, 1.0000E+ 0, 0.0000E+ 0, IMPURITY #4(KI=1505.9)
290  160.00, 1.0000E+ 0, 1.0000E+ 0, $1600-n-C16-ANE;FE=297
291  177.94, 1.0176E+ 5, 1.0000E+ 0, &ANTH-d10(IS)(KI=1772)
292  192.84, 1.0000E+ 0, 0.0000E+ 0, IMPURITY #5(KI=1928.4)
293  194.65, 1.0000E+ 0, 0.0000E+ 0, IMPURITY #6(KI=1946.5)
294  195.28, 1.0000E+ 0, 0.0000E+ 0, IMPURITY #7(KI=1952.8)
295  211.80, 1.0000E+ 0, 0.0000E+ 0, $2118-(IMPURITY #8)
296  530.00, 1.0000E+ 0, 1.0000E+ 0, #5300-NO R.T. UPDATE
297   /E
```

3. USER PROGRAMS

```
POST-ANAL  DIALG-PRG  PARAM-FILE
BAFF  :KS
```

4. REPORTS

```
     RDVC #RPTS
  1   L3,   1
  2   /E
```

TABLE 3. LAS METHOD USED FOR THE QUANTITATIVE DETERMINATION OF CONCENTRATIONS OF VAPOR PHASE FEATURES

```
AUG 20, 1984   13:01
METHOD: DFABVP    ON CRN 15                CREATED:   7:45 ON JAN 24, 1984
CHANNEL 12                                 MODIFIED: 12:36 ON AUG 17, 1984

1. DATA INPUT

 RUNTM   #PKS
 540.00,  500

 MV/MIN   DELAY   MIN-AR   BUNCH
   .300,   0.00,     100,   NO

 INTEGRATOR EVENTS
     TIME   EVENT
  1   /E

 CONTROL EVENTS
     TIME   EVENT  ECM  RLY
  1   /E

2. DATA ANALYSIS

 PROC  RPRT  SUP-UNK
 ESTD,  ME,   NO

 UNITS   TITLE
 ppm-MF, VAPOR PHASE ANALYSIS

 REF-RTW  %RTW   RF-UNK        ID-LVL    DVT
   .050,   .150, 3.5261E- 3,     100,   0.00

 CALIBRATION PEAKS
           TIME      AMOUNT       FACTOR      NAME
        1   10.48, 1.0000E+ 0, 3.5261E- 3, AIR PEAK(KI=104.8)
        2   20.00, 1.0000E+ 0, 6.8475E- 3, $200-n-C2-ANE;  FE=341
        3   30.00, 1.0000E+ 0, 5.4676E- 3, $300-n-C3-ANE;  FE=001
        4   35.90, 1.0000E+ 0, 3.5261E- 3, KI= 388.0;      FE=002
        5   40.00, 1.0000E+ 0, 5.2794E- 3, $400-n-C4-ANE;  FE=003
        6   40.96, 1.0000E+ 0, 3.5261E- 3, KI= 409.5;      FE=299
        7   41.81, 1.0000E+ 0, 3.5261E- 3, KI= 417.0;      FE=300
        8   44.18, 1.0000E+ 0, 3.5261E- 3, KI= 441.5;      FE=301
        9   45.97, 1.0000E+ 0, 3.5261E- 3, KI= 457.6;      FE=004
       10   48.45, 1.0000E+ 0, 3.5261E- 3, KI= 483.0;      FE=302
       11   50.00, 1.0000E+ 0, 4.2124E- 3, $500-n-C5-ANE;  FE=005
       12   50.48, 1.0000E+ 0, 3.5261E- 3, KI= 504.9;      FE=303
       13   50.57, 1.0000E+ 0, 3.5261E- 3, KI= 506.0;      FE=006
       14   50.68, 1.0000E+ 0, 3.5261E- 3, KI= 506.9;      FE=304
       15   50.89, 1.0000E+ 0, 3.5261E- 3, KI= 508.8;      FE=305
```

TABLE 3 (cont'd)

```
16   51.01, 1.0000E+ 0, 3.5261E- 3, KI= 509.9;        FE=007
17   51.25, 1.0000E+ 0, 3.5261E- 3, KI= 512.7;        FE=008
18   51.85, 1.0000E+ 0, 3.5261E- 3, KI= 518.5;        FE=009
19   52.42, 1.0000E+ 0, 3.5261E- 3, KI= 524.1;        FE=306
20   52.77, 1.0000E+ 0, 3.5261E- 3, KI= 527.5;        FE=307
21   53.65, 1.0000E+ 0, 3.5261E- 3, KI= 536.7;        FE=308
22   54.15, 1.0000E+ 0, 3.5261E- 3, KI= 541.9;        FE=309
23   54.27, 1.0000E+ 0, 3.5261E- 3, KI= 542.9;        FE=310
24   54.48, 1.0000E+ 0, 3.5261E- 3, KI= 549.7;        FE=010
25   54.71, 1.0000E+ 0, 3.5261E- 3, KI= 552.4;        FE=011
26   55.63, 1.0000E+ 0, 3.5261E- 3, KI= 559.3;        FE=311
27   55.87, 1.0000E+ 0, 3.5261E- 3, KI= 560.4;        FE=012
28   56.36, 1.0000E+ 0, 3.5261E- 3, KI= 564.2;        FE=312
29   57.46, 1.0000E+ 0, 3.5261E- 3, KI= 577.3;        FE=013
30   58.70, 1.0000E+ 0, 3.5261E- 3, KI= 588.0;        FE=313
31   58.86, 1.0000E+ 0, 3.5261E- 3, KI= 589.7;        FE=314
32   60.00, 1.0000E+ 0, 3.5261E- 3, #600-n-C6-ANE;    FE=014
33   60.33, 1.0000E+ 0, 3.5261E- 3, KI= 604.1;        FE=315
34   60.74, 1.0000E+ 0, 3.5261E- 3, KI= 609.2;        FE=015
35   60.93, 1.0000E+ 0, 3.5261E- 3, KI= 611.2;        FE=016
36   61.22, 1.0000E+ 0, 3.5261E- 3, KI= 613.9;        FE=017
37   61.92, 1.0000E+ 0, 3.5261E- 3, KI= 619.4;        FE=316
38   62.51, 1.0000E+ 0, 3.5261E- 3, KI= 624.8;        FE=018
39   62.62, 1.0000E+ 0, 3.5261E- 3, KI= 627.3;        FE=019
40   63.15, 1.0000E+ 0, 3.5261E- 3, KI= 632.4;        FE=020
41   63.53, 1.0000E+ 0, 3.5261E- 3, KI= 635.5;        FE=317
42   64.20, 1.0000E+ 0, 3.5261E- 3, KI= 642.4;        FE=318
43   64.40, 1.0000E+ 0, 3.5261E- 3, KI= 644.0;        FE=319
44   64.76, 1.0000E+ 0, 3.5261E- 3, KI= 647.6;        FE=320
45   65.09, 1.0000E+ 0, 3.5261E- 3, KI= 651.0;        FE=321
46   65.23, 1.0000E+ 0, 3.5261E- 3, KI= 653.0;        FE=021
47   65.67, 1.0000E+ 0, 3.5261E- 3, KI= 656.1;        FE=022
48   66.00, 1.0000E+ 0, 3.5261E- 3, KI= 658.8;        FE=023
49   66.30, 1.0000E+ 0, 3.5261E- 3, KI= 663.0;        FE=322
50   66.57, 1.0000E+ 0, 3.5261E- 3, KI= 666.0;        FE=323
51   66.90, 1.0000E+ 0, 3.5261E- 3, KI= 669.0;        FE=024
52   67.08, 1.0000E+ 0, 3.5261E- 3, KI= 670.4;        FE=025
53   67.18, 1.0000E+ 0, 3.5261E- 3, KI= 671.9;        FE=324
54   67.35, 1.0000E+ 0, 3.5261E- 3, KI= 673.9;        FE=325
55   67.46, 1.0000E+ 0, 3.5261E- 3, KI= 674.8;        FE=326
56   67.79, 1.0000E+ 0, 3.5261E- 3, KI= 677.4;        FE=026
57   68.00, 1.0000E+ 0, 3.5261E- 3, KI= 679.8;        FE=027
58   68.20, 1.0000E+ 0, 3.5261E- 3, KI= 682.0;        FE=028
59   68.44, 1.0000E+ 0, 3.5261E- 3, KI= 684.6;        FE=029
60   68.52, 1.0000E+ 0, 3.5261E- 3, KI= 685.8;        FE=030
61   68.96, 1.0000E+ 0, 3.5261E- 3, KI= 689.6;        FE=327
62   69.23, 1.0000E+ 0, 3.5261E- 3, KI= 692.2;        FE=328
63   69.63, 1.0000E+ 0, 3.5261E- 3, KI= 696.2;        FE=329
64   70.00, 1.0000E+ 0, 3.5261E- 3, $700-n-C7-ANE;    FE=031
```

TABLE 3 (cont'd)

65	70.09,	1.0000E+ 0,	3.5261E- 3,	KI= 701.8;	FE=032
66	70.26,	1.0000E+ 0,	3.5261E- 3,	KI= 702.6;	FE=330
67	70.40,	1.0000E+ 0,	3.5261E- 3,	KI= 705.0;	FE=033
68	70.61,	1.0000E+ 0,	3.5261E- 3,	KI= 706.7;	FE=034
69	70.74,	1.0000E+ 0,	3.5261E- 3,	KI= 708.0;	FE=035
70	71.23,	1.0000E+ 0,	3.5261E- 3,	KI= 712.5;	FE=036
71	71.44,	1.0000E+ 0,	3.5261E- 3,	KI= 715.6;	FE=037
72	71.77,	1.0000E+ 0,	3.5261E- 3,	KI= 719.1;	FE=038
73	72.48,	1.0000E+ 0,	3.5261E- 3,	KI= 725.8;	FE=039
74	72.89,	1.0000E+ 0,	3.5261E- 3,	KI= 730.0;	FE=040
75	72.99,	1.0000E+ 0,	3.5261E- 3,	KI= 731.0;	FE=041
76	73.26,	1.0000E+ 0,	3.5261E- 3,	KI= 733.6;	FE=042
77	73.38,	1.0000E+ 0,	3.5261E- 3,	KI= 735.0;	FE=043
78	74.02,	1.0000E+ 0,	3.5261E- 3,	KI= 741.2;	FE=044
79	74.22,	1.0000E+ 0,	3.5261E- 3,	KI= 743.3;	FE=045
80	74.43,	1.0000E+ 0,	3.5261E- 3,	KI= 745.4;	FE=046
81	74.56,	1.0000E+ 0,	3.5261E- 3,	KI= 745.7;	FE=331
82	74.93,	1.0000E+ 0,	3.5261E- 3,	KI= 749.9;	FE=047
83	75.14,	1.0000E+ 0,	3.5261E- 3,	KI= 751.4;	FE=332
84	75.31,	1.0000E+ 0,	3.5261E- 3,	KI= 753.9;	FE=048
85	75.44,	1.0000E+ 0,	3.5261E- 3,	KI= 754.5;	FE=333
86	75.65,	1.0000E+ 0,	3.5261E- 3,	KI= 757.1;	FE=049
87	75.97,	1.0000E+ 0,	3.5261E- 3,	KI= 758.8;	FE=050
88	76.12,	1.0000E+ 0,	3.5261E- 3,	KI= 762.0;	FE=051
89	76.49,	1.0000E+ 0,	3.5261E- 3,	KI= 765.3;	FE=052
90	76.60,	1.0000E+ 0,	3.5261E- 3,	KI= 766.4;	FE=053
91	76.85,	1.0000E+ 0,	3.5261E- 3,	KI= 768.8;	FE=054
92	77.03,	1.0000E+ 0,	3.5261E- 3,	KI= 770.6;	FE=055
93	77.21,	1.0000E+ 0,	3.5261E- 3,	KI= 772.4;	FE=056
94	77.50,	1.0000E+ 0,	3.5261E- 3,	KI= 775.2;	FE=057
95	77.82,	1.0000E+ 0,	3.5261E- 3,	KI= 778.1;	FE=334
96	76.07,	1.0000E+ 0,	3.5261E- 3,	KI= 781.0;	FE=058
97	78.29,	1.0000E+ 0,	3.5261E- 3,	KI= 783.2;	FE=059
98	78.42,	1.0000E+ 0,	3.5261E- 3,	KI= 784.4;	FE=060
99	78.54,	1.0000E+ 0,	3.5261E- 3,	KI= 785.4;	FE=061
100	78.68,	1.0000E+ 0,	3.5261E- 3,	KI= 786.9;	FE=062
101	78.88,	1.0000E+ 0,	3.5261E- 3,	KI= 788.8;	FE=335
102	79.10,	1.0000E+ 0,	3.5261E- 3,	KI= 791.1;	FE=063
103	79.41,	1.0000E+ 0,	3.5261E- 3,	KI= 794.4;	FE=064
104	79.58,	1.0000E+ 0,	3.5261E- 3,	KI= 795.7;	FE=065
105	80.00,	1.0000E+ 0,	3.5261E- 3,	#800-n-C8-ANE;	FE=066
106	80.16,	1.0000E+ 0,	3.5261E- 3,	KI= 801.7;	FE=336
107	80.26,	1.0000E+ 0,	3.5261E- 3,	KI= 802.5;	FE=067
108	80.60,	1.0000E+ 0,	3.5261E- 3,	KI= 805.7;	FE=068
109	80.71,	1.0000E+ 0,	3.5261E- 3,	KI= 807.1;	FE=069
110	80.90,	1.0000E+ 0,	3.5261E- 3,	KI= 808.9;	FE=070
111	81.21,	1.0000E+ 0,	3.5261E- 3,	KI= 812.3;	FE=071
112	81.38,	1.0000E+ 0,	3.5261E- 3,	KI= 813.6;	FE=072
113	81.68,	1.0000E+ 0,	3.5261E- 3,	KI= 817.0;	FE=073

TABLE 3 (cont'd)

```
114   81.84, 1.0000E+ 0, 3.5261E- 3, KI= 818.2;        FE=074
115   82.11, 1.0000E+ 0, 3.5261E- 3, KI= 821.3;        FE=075
116   82.30, 1.0000E+ 0, 3.5261E- 3, KI= 823.0;        FE=337
117   82.44, 1.0000E+ 0, 3.5261E- 3, KI= 824.2;        FE=076
118   82.58, 1.0000E+ 0, 3.5261E- 3, KI= 825.7;        FE=077
119   82.80, 1.0000E+ 0, 3.5261E- 3, KI= 828.1;        FE=078
120   82.93, 1.0000E+ 0, 3.5261E- 3, KI= 829.3;        FE=338
121   83.43, 1.0000E+ 0, 3.5261E- 3, KI= 834.4;        FE=079
122   83.70, 1.0000E+ 0, 3.5261E- 3, KI= 837.0;        FE=080
123   84.08, 1.0000E+ 0, 3.5261E- 3, KI= 840.8;        FE=081
124   84.28, 1.0000E+ 0, 3.5261E- 3, KI= 842.7;        FE=082
125   84.42, 1.0000E+ 0, 3.5261E- 3, KI= 844.2;        FE=083
126   84.62, 1.0000E+ 0, 3.5261E- 3, KI= 846.2;        FE=084
127   84.84, 1.0000E+ 0, 3.5261E- 3, KI= 848.2;        FE=085
128   85.28, 1.0000E+ 0, 3.5261E- 3, KI= 850.9;        FE=086
129   85.46, 1.0000E+ 0, 3.5261E- 3, KI= 852.8;        FE=087
130   85.56, 1.0000E+ 0, 3.5261E- 3, KI= 854.4;        FE=088
131   85.69, 1.0000E+ 0, 3.5261E- 3, KI= 856.1;        FE=089
132   86.00, 1.0000E+ 0, 3.5261E- 3, KI= 860.0;        FE=090
133   86.30, 1.0000E+ 0, 3.5261E- 3, KI= 862.2;        FE=091
134   86.37, 1.0000E+ 0, 3.5261E- 3, KI= 863.8;        FE=092
135   86.48, 1.0000E+ 0, 3.5261E- 3, KI= 865.0;        FE=093
136   86.78, 1.0000E+ 0, 3.5261E- 3, KI= 867.4;        FE=094
137   86.96, 1.0000E+ 0, 3.5261E- 3, KI= 869.5;        FE=095
138   87.12, 1.0000E+ 0, 3.5261E- 3, KI= 871.2;        FE=096
139   87.33, 1.0000E+ 0, 3.5261E- 3, KI= 873.1;        FE=097
140   87.73, 1.0000E+ 0, 3.5261E- 3, KI= 877.1;        FE=098
141   88.03, 1.0000E+ 0, 3.5261E- 3, KI= 880.0;        FE=099
142   88.19, 1.0000E+ 0, 3.5261E- 3, KI= 881.6;        FE=100
143   88.61, 1.0000E+ 0, 3.5261E- 3, KI= 884.5;        FE=102
144   88.78, 1.0000E+ 0, 3.5261E- 3, KI= 887.4;        FE=103
145   89.16, 1.0000E+ 0, 3.5261E- 3, KI= 890.9;        FE=104
146   89.31, 1.0000E+ 0, 3.5261E- 3, KI= 892.6;        FE=105
147   89.48, 1.0000E+ 0, 3.5261E- 3, KI= 894.6;        FE=106
148   89.62, 1.0000E+ 0, 3.5261E- 3, KI= 895.9;        FE=107
149   89.82, 1.0000E+ 0, 3.5261E- 3, KI= 897.6;        FE=108
150   90.00, 1.0000E+ 0, 3.5261E- 3, $900-n-C9-ANE;    FE=109
151   90.18, 1.0000E+ 0, 3.5261E- 3, KI= 901.3;        FE=110
152   90.92, 1.0000E+ 0, 3.5261E- 3, KI= 908.4;        FE=112
153   91.15, 1.0000E+ 0, 3.5261E- 3, KI= 910.8;        FE=113
154   91.42, 1.0000E+ 0, 3.5261E- 3, KI= 913.9;        FE=114
155   91.55, 1.0000E+ 0, 3.5261E- 3, KI= 915.4;        FE=115
156   91.76, 1.0000E+ 0, 3.5261E- 3, KI= 917.7;        FE=116
157   92.01, 1.0000E+ 0, 3.5261E- 3, KI= 920.1;        FE=117
158   92.32, 1.0000E+ 0, 3.5261E- 3, KI= 922.6;        FE=118
159   92.49, 1.0000E+ 0, 3.5261E- 3, KI= 924.7;        FE=119
160   92.93, 1.0000E+ 0, 3.5261E- 3, KI= 929.1;        FE=120
161   93.37, 1.0000E+ 0, 3.5261E- 3, KI= 933.5;        FE=122
162   93.96, 1.0000E+ 0, 3.5261E- 3, KI= 939.4;        FE=123
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TABLE 3 (cont'd)

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163   94.12, 1.0000E+ 0, 3.5261E- 3, KI= 941.0;        FE=124
164   94.57, 1.0000E+ 0, 3.5261E- 3, KI= 945.3;        FE=125
165   94.92, 1.0000E+ 0, 3.5261E- 3, KI= 947.4;        FE=126
166   95.24, 1.0000E+ 0, 3.5261E- 3, KI= 952.0;        FE=127
167   95.38, 1.0000E+ 0, 3.5261E- 3, KI= 953.5;        FE=128
168   95.56, 1.0000E+ 0, 3.5261E- 3, KI= 955.6;        FE=339
169   95.75, 1.0000E+ 0, 3.5261E- 3, KI= 955.8;        FE=129
170   95.88, 1.0000E+ 0, 3.5261E- 3, KI= 956.8;        FE=130
171   96.08, 1.0000E+ 0, 3.5261E- 3, KI= 960.5;        FE=131
172   96.22, 1.0000E+ 0, 3.5261E- 3, KI= 962.1;        FE=132
173   96.40, 1.0000E+ 0, 3.5261E- 3, KI= 964.7;        FE=133
174   96.50, 1.0000E+ 0, 3.5261E- 3, KI= 966.1;        FE=134
175   96.77, 1.0000E+ 0, 3.5261E- 3, KI= 967.4;        FE=135
176   97.11, 1.0000E+ 0, 3.5261E- 3, KI= 970.8;        FE=136
177   97.30, 1.0000E+ 0, 3.5261E- 3, KI= 972.7;        FE=137
178   97.38, 1.0000E+ 0, 3.5261E- 3, KI= 974.9;        FE=138
179   97.46, 1.0000E+ 0, 3.5261E- 3, KI= 976.9;        FE=139
180   97.75, 1.0000E+ 0, 3.5261E- 3, KI= 979.2;        FE=140
181   97.85, 1.0000E+ 0, 3.5261E- 3, KI= 980.2;        FE=141
182   97.97, 1.0000E+ 0, 3.5261E- 3, KI= 981.7;        FE=142
183   98.21, 1.0000E+ 0, 3.5261E- 3, KI= 983.3;        FE=143
184   98.77, 1.0000E+ 0, 3.5261E- 3, KI= 986.2;        FE=144
185   98.96, 1.0000E+ 0, 3.5261E- 3, KI= 989.0;        FE=145
186   99.41, 1.0000E+ 0, 3.5261E- 3, KI= 993.5;        FE=146
187   99.55, 1.0000E+ 0, 3.5261E- 3, KI= 995.3;        FE=147
188   99.73, 1.0000E+ 0, 3.5261E- 3, KI= 996.8;        FE=148
189  100.00, 1.0000E+ 0, 3.5261E- 3, $1000-n-C10-ANE;FE=149
190  100.54, 1.0000E+ 0, 3.5261E- 3, KI=1003.9;       FE=150
191  101.06, 1.0000E+ 0, 3.5261E- 3, KI=1009.0;       FE=151
192  101.57, 1.0000E+ 0, 3.5261E- 3, KI=1013.9;       FE=152
193  101.73, 1.0000E+ 0, 3.5261E- 3, KI=1017.0;       FE=153
194  101.89, 1.0000E+ 0, 3.5261E- 3, KI=1019.3;       FE=154
195  102.05, 1.0000E+ 0, 3.5261E- 3, KI=1020.1;       FE=155
196  102.31, 1.0000E+ 0, 3.5261E- 3, KI=1022.9;       FE=156
197  102.64, 1.0000E+ 0, 3.5261E- 3, KI=1025.8;       FE=157
198  102.80, 1.0000E+ 0, 3.5261E- 3, KI=1028.4;       FE=158
199  103.22, 1.0000E+ 0, 3.5261E- 3, KI=1031.6;       FE=159
200  103.37, 1.0000E+ 0, 3.5261E- 3, KI=1033.4;       FE=160
201  103.47, 1.0000E+ 0, 3.5261E- 3, KI=1034.6;       FE=161
202  103.68, 1.0000E+ 0, 3.5261E- 3, KI=1036.6;       FE=162
203  103.88, 1.0000E+ 0, 3.5261E- 3, KI=1038.5;       FE=163
204  104.04, 1.0000E+ 0, 3.5261E- 3, KI=1040.6;       FE=164
205  104.42, 1.0000E+ 0, 3.5261E- 3, KI=1043.2;       FE=165
206  104.67, 1.0000E+ 0, 3.5261E- 3, KI=1044.7;       FE=166
207  104.81, 1.0000E+ 0, 3.5261E- 3, KI=1046.4;       FE=167
208  105.11, 1.0000E+ 0, 3.5261E- 3, KI=1049.4;       FE=168
209  105.24, 1.0000E+ 0, 3.5261E- 3, KI=1050.6;       FE=169
210  105.56, 1.0000E+ 0, 3.5261E- 3, KI=1053.8;       FE=170
211  105.74, 1.0000E+ 0, 3.5261E- 3, KI=1055.3;       FE=171
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TABLE 3 (cont'd)

```
212  105.82, 1.0000E+ 0, 3.5261E- 3, KI=1057.9;          FE=173
213  106.12, 1.0000E+ 0, 3.5261E- 3, KI=1060.8;          FE=174
214  106.26, 1.0000E+ 0, 3.5261E- 3, KI=1062.6;          FE=340
215  106.48, 1.0000E+ 0, 3.5261E- 3, KI=1064.6;          FE=175
216  106.90, 1.0000E+ 0, 3.5261E- 3, KI=1066.2;          FE=176
217  107.08, 1.0000E+ 0, 3.5261E- 3, KI=1070.6;          FE=177
218  107.44, 1.0000E+ 0, 3.5261E- 3, KI=1072.8;          FE=178
219  108.08, 1.0000E+ 0, 3.5261E- 3, KI=1079.0;          FE=179
220  108.49, 1.0000E+ 0, 3.5261E- 3, KI=1081.6;          FE=180
221  108.64, 1.0000E+ 0, 3.5261E- 3, KI=1084.3;          FE=181
222  108.81, 1.0000E+ 0, 3.5261E- 3, KI=1087.2;          FE=182
223  109.05, 1.0000E+ 0, 3.5261E- 3, KI=1089.4;          FE=183
224  109.14, 1.0000E+ 0, 3.5261E- 3, KI=1090.8;          FE=184
225  109.44, 1.0000E+ 0, 3.5261E- 3, KI=1093.8;          FE=185
226  109.79, 1.0000E+ 0, 3.5261E- 3, KI=1096.0;          FE=186
227  110.00, 1.0000E+ 0, 3.5261E- 3, $1100-n-C11-ANE;FE=187
228  110.26, 1.0000E+ 0, 3.5261E- 3, KI=1101.7;          FE=188
229  110.56, 1.0000E+ 0, 3.5261E- 3, KI=1104.4;          FE=189
230  110.78, 1.0000E+ 0, 3.5261E- 3, KI=1106.6;          FE=190
231  111.03, 1.0000E+ 0, 3.5261E- 3, KI=1108.4;          FE=191
232  111.26, 1.0000E+ 0, 3.5261E- 3, KI=1110.3;          FE=192
233  111.45, 1.0000E+ 0, 3.5261E- 3, KI=1112.6;          FE=193
234  111.67, 1.0000E+ 0, 3.5261E- 3, KI=1115.8;          FE=194
235  111.88, 1.0000E+ 0, 3.5261E- 3, KI=1117.7;          FE=195
236  112.08, 1.0000E+ 0, 3.5261E- 3, KI=1119.7;          FE=196
237  112.36, 1.0000E+ 0, 3.5261E- 3, KI=1123.4;          FE=198
238  112.74, 1.0000E+ 0, 3.5261E- 3, KI=1127.0;          FE=199
239  113.01, 1.0000E+ 0, 3.5261E- 3, KI=1129.4;          FE=200
240  113.20, 1.0000E+ 0, 3.5261E- 3, KI=1132.7;          FE=201
241  113.27, 1.0000E+ 0, 3.5261E- 3, KI=1133.7;          FE=202
242  113.37, 1.0000E+ 0, 3.5261E- 3, KI=1135.0;          FE=203
243  113.52, 1.0000E+ 0, 3.5261E- 3, KI=1137.1;          FE=204
244  114.32, 1.0000E+ 0, 3.5261E- 3, KI=1139.7;          FE=205
245  114.61, 1.0000E+ 0, 3.5261E- 3, KI=1141.0;          FE=206
246  115.03, 1.0000E+ 0, 3.5261E- 3, KI=1144.0;          FE=207
247  115.45, 1.0000E+ 0, 3.5261E- 3, KI=1148.3;          FE=208
248  115.52, 1.0000E+ 0, 3.5261E- 3, KI=1149.8;          FE=209
249  115.60, 1.0000E+ 0, 3.5261E- 3, KI=1152.6;          FE=210
250  115.80, 1.0000E+ 0, 3.5261E- 3, KI=1155.0;          FE=211
251  116.02, 1.0000E+ 0, 3.5261E- 3, KI=1156.1;          FE=212
252  116.22, 1.0000E+ 0, 3.5261E- 3, KI=1158.0;          FE=213
253  116.46, 1.0000E+ 0, 3.5261E- 3, KI=1159.8;          FE=214
254  116.68, 1.0000E+ 0, 3.5261E- 3, KI=1161.8;          FE=215
255  117.02, 1.0000E+ 0, 3.5261E- 3, KI=1164.2;          FE=216
256  117.49, 1.0000E+ 0, 3.5261E- 3, KI=1170.4;          FE=217
257  117.74, 1.0000E+ 0, 3.5261E- 3, KI=1171.4;          FE=218
258  118.13, 1.0000E+ 0, 3.5261E- 3, KI=1175.9;          FE=219
259  118.21, 1.0000E+ 0, 3.5261E- 3, KI=1179.7;          FE=220
260  118.40, 1.0000E+ 0, 3.5261E- 3, KI=1181.4;          FE=221
```

TABLE 3 (cont'd)

```
261  118.84, 1.0000E+ 0, 3.5261E- 3, KI=1185.3;          FE=222
262  119.18, 1.0000E+ 0, 3.5261E- 3, KI=1189.6;          FE=223
263  119.42, 1.0000E+ 0, 3.5261E- 3, KI=1191.5;          FE=224
264  119.58, 1.0000E+ 0, 3.5261E- 3, KI=1193.9;          FE=225
265  119.74, 1.0000E+ 0, 3.5261E- 3, KI=1195.4;          FE=226
266  120.00, 1.0000E+ 0, 3.5261E- 3, $1200-n-C12-ANE;FE=227
267  120.36, 1.0000E+ 0, 3.5261E- 3, KI=1203.4;          FE=228
268  120.64, 1.0000E+ 0, 3.5261E- 3, KI=1205.6;          FE=229
269  120.71, 1.0000E+ 0, 3.5261E- 3, KI=1207.2;          FE=230
270  121.07, 1.0000E+ 0, 3.5261E- 3, KI=1210.9;          FE=231
271  121.41, 1.0000E+ 0, 3.5261E- 3, KI=1214.2;          FE=232
272  121.81, 1.0000E+ 0, 3.5261E- 3, KI=1218.2;          FE=233
273  122.02, 1.0000E+ 0, 3.5261E- 3, KI=1220.0;          FE=234
274  122.18, 1.0000E+ 0, 3.5261E- 3, KI=1221.7;          FE=235
275  122.40, 1.0000E+ 0, 3.5261E- 3, KI=1224.3;          FE=236
276  122.78, 1.0000E+ 0, 3.5261E- 3, KI=1227.8;          FE=237
277  123.44, 1.0000E+ 0, 3.5261E- 3, KI=1233.9;          FE=238
278  123.92, 1.0000E+ 0, 3.5261E- 3, KI=1238.6;          FE=239
279  124.58, 1.0000E+ 0, 3.5261E- 3, KI=1241.7;          FE=240
280  124.95, 1.0000E+ 0, 3.5261E- 3, KI=1245.4;          FE=241
281  125.26, 1.0000E+ 0, 3.5261E- 3, KI=1248.5;          FE=242
282  125.44, 1.0000E+ 0, 3.5261E- 3, KI=1252.8;          FE=243
283  125.65, 1.0000E+ 0, 3.5261E- 3, KI=1254.8;          FE=244
284  125.89, 1.0000E+ 0, 3.5261E- 3, KI=1259.3;          FE=245
285  126.36, 1.0000E+ 0, 3.5261E- 3, KI=1264.0;          FE=246
286  126.77, 1.0000E+ 0, 3.5261E- 3, KI=1267.6;          FE=247
287  126.98, 1.0000E+ 0, 3.5261E- 3, KI=1270.2;          FE=248
288  127.24, 1.0000E+ 0, 3.5261E- 3, KI=1273.1;          FE=249
289  127.48, 1.0000E+ 0, 3.5261E- 3, KI=1276.1;          FE=250
290  127.76, 1.0000E+ 0, 3.5261E- 3, KI=1277.5;          FE=251
291  128.50, 1.0000E+ 0, 3.5261E- 3, KI=1282.7;          FE=253
292  128.70, 1.0000E+ 0, 3.5261E- 3, KI=1285.6;          FE=254
293  129.08, 1.0000E+ 0, 3.5261E- 3, KI=1288.3;          FE=255
294  129.66, 1.0000E+ 0, 3.5261E- 3, KI=1294.2;          FE=256
295  130.00, 1.0000E+ 0, 3.5261E- 3, $1300-n-C13-ANE;FE=257
296  130.42, 1.0000E+ 0, 3.5261E- 3, KI=1304.4;          FE=258
297  130.96, 1.0000E+ 0, 3.5261E- 3, KI=1309.6;          FE=259
298  131.16, 1.0000E+ 0, 3.5261E- 3, KI=1311.5;          FE=260
299  131.80, 1.0000E+ 0, 3.5261E- 3, KI=1318.0;          FE=262
300  132.31, 1.0000E+ 0, 3.5261E- 3, KI=1323.1;          FE=263
301  132.80, 1.0000E+ 0, 3.5261E- 3, KI=1328.0;          FE=264
302  133.34, 1.0000E+ 0, 3.5261E- 3, KI=1333.4;          FE=265
303  133.85, 1.0000E+ 0, 3.5261E- 3, KI=1338.4;          FE=266
304  134.22, 1.0000E+ 0, 3.5261E- 3, KI=1342.2;          FE=267
305  134.45, 1.0000E+ 0, 3.5261E- 3, KI=1344.5;          FE=268
306  134.75, 1.0000E+ 0, 3.5261E- 3, KI=1347.5;          FE=269
307  135.11, 1.0000E+ 0, 3.5261E- 3, KI=1351.1;          FE=270
308  135.41, 1.0000E+ 0, 3.5261E- 3, KI=1354.0;          FE=271
309  135.89, 1.0000E+ 0, 3.5261E- 3, KI=1358.9;          FE=272
```

TABLE 3 (concluded)

```
310   136.40, 1.0000E+ 0, 3.5261E- 3, KI=1364.0;        FE=273
311   137.03, 1.0000E+ 0, 3.5261E- 3, KI=1370.3;        FE=274
312   137.67, 1.0000E+ 0, 3.5261E- 3, KI=1376.7;        FE=275
313   138.30, 1.0000E+ 0, 3.5261E- 3, KI=1383.0;        FE=276
314   138.86, 1.0000E+ 0, 3.5261E- 3, KI=1388.6;        FE=277
315   139.34, 1.0000E+ 0, 3.5261E- 3, KI=1393.4;        FE=278
316   140.00, 1.0000E+ 0, 3.5261E- 3, $1400-n-C14-ANE;FE=279
317   140.40, 1.0000E+ 0, 3.5261E- 3, KI=1404.0;        FE=280
318   140.79, 1.0000E+ 0, 3.5261E- 3, KI=1407.9;        FE=281
319   141.11, 1.0000E+ 0, 3.5261E- 3, KI=1411.1;        FE=282
320   141.36, 1.0000E+ 0, 3.5261E- 3, KI=1413.6;        FE=283
321   142.20, 1.0000E+ 0, 3.5261E- 3, KI=1422.0;        FE=285
322   142.72, 1.0000E+ 0, 3.5261E- 3, KI=1427.2;        FE=286
323   143.03, 1.0000E+ 0, 3.5261E- 3, KI=1430.3;        FE=287
324   143.42, 1.0000E+ 0, 3.5261E- 3, KI=1434.1;        FE=288
325   144.32, 1.0000E+ 0, 3.5261E- 3, KI=1443.2;        FE=289
326   144.61, 1.0000E+ 0, 3.5261E- 3, KI=1446.1;        FE=290
327   145.05, 1.0000E+ 0, 3.5261E- 3, KI=1450.5;        FE=291
328   145.35, 1.0000E+ 0, 3.5261E- 3, KI=1453.4;        FE=292
329   145.87, 1.0000E+ 0, 3.5261E- 3, KI=1458.7;        FE=293
330   146.27, 1.0000E+ 0, 3.5261E- 3, KI=1462.7;        FE=294
331   147.07, 1.0000E+ 0, 3.5261E- 3, KI=1470.7;        FE=295
332   150.00, 1.0000E+ 0, 3.5261E- 3, $1500-n-C15-ANE;FE=296
333   530.00, 1.0000E+ 0, 3.5261E- 3, #5300-NO R.T. UPDATE
334    /E
```

3. USER PROGRAMS

```
POST-ANAL  DIALG-PRG  PARAM-FILE
BAFF   :KS
```

4. REPORTS

```
     RDVC #RPTS
  1   L3,    1
  2   /E
```

TABLE 4. NAMING CONVENTIONS USED FOR FILES AND SAMPLES RELATED TO THE ANALYSIS OF WATER SOLUBLE AND VAPOR PHASE FEATURE CONCENTRATIONS

File Type	Water Soluble File Name	Vapor Phase File Name
Raw Data Files	DFRXXX:KS	DFRXXX:KS
Processed Data Files	DFPXXX:KS	DFPXXX:KS
Kovats Index Processed Files	BKPXXX:MH	BKPXXX:MH
Kovats Index & Rel. Processed Files	BIPXXX:MH	BIPXXX:MH
where XXX is an identifying number.		
Sequences	DFWSXX:KS	DFWSXX:KS
Methods	DFWSC:KS, DFWSS:KS	DFVPX:KS
Master Methods	DFABWS:KS, DFPCWS:KS	DFABVP:KS,DFPCVP:KS
where XX is an identifying number.		
Sample Name	NNNJP4WS01	NNNJP4VP01
Duplicate Sample Name	NNNJP4WS02	NNNJP4VP02
where NNN is the three-digit code given in Table 35 of Reference 1.		

TABLE 5. REP8 OUTPUT OF A DATA BASE CONTAINING 10 ANALYSES OF THE JP-4 REFERENCE FUEL DILUTED ONE THOUSAND TIMES

STATISTICAL SUMMARY OF MHOS DATA BASE

CONSISTING OF 10 SAMPLES
CONCENTRATION (mg/mL)

COMPOUND NAME		AVERAGE	RANGE	STANDARD DEVIATION	%REL STANDARD DEVIATION	NUMBER OF SAMPLES
IMPURITY #1(KI= 368.3)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	7
KI= 377.2;	FE=001	2.54E-01				1
KI= 388.0;	FE=002	4.84E-01	1.91E-01	6.24E-02	1.29E+01	10
$400-n-C4-ANE;	FE=003	1.33E+00	1.35E-01	4.05E-02	3.05E+00	10
KI= 457.6;	FE=004	5.04E+00	2.32E+00	8.79E-01	1.74E+01	10
$500-n-C5-ANE;	FE=005	4.69E+00	8.71E+00	3.00E+00	6.40E+01	10
CS2 SOLVENT		0.00E+00	0.00E+00	0.00E+00	1.70E+38	10
KI= 549.7;	FE=010	1.39E+00	1.39E+00	4.34E-01	3.12E+01	9
KI= 552.4;	FE=011	9.59E-01	6.38E-01	2.09E-01	2.17E+01	10
KI= 560.4;	FE=012	9.82E+00	1.32E+00	4.29E-01	4.37E+00	10
KI= 577.3;	FE=013	7.14E+00	3.67E-01	1.14E-01	1.60E+00	10
$600-n-C6-ANE;	FE=014	1.72E+01	9.34E-01	2.68E-01	1.56E+00	10
KI= 613.9;	FE=017	2.20E-01				1
KI= 624.8;	FE=018	8.21E+00	1.35E+00	3.71E-01	4.52E+00	10
KI= 627.3;	FE=019	2.49E-01				1
KI= 632.4;	FE=020	1.84E+00	1.67E-01	4.92E-02	2.67E+00	10
KI= 653.0;	FE=021	1.08E+00	1.52E-01	5.17E-02	4.77E+00	10
KI= 656.1;	FE=022	8.63E+00	3.64E-01	1.18E-01	1.36E+00	10
KI= 658.8;	FE=023	1.71E+01	8.32E-01	2.77E-01	1.62E+00	10
IMPURITY #2(KI= 665.8)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	10
KI= 669.0;	FE=024	3.95E+00	3.26E-01	8.88E-02	2.25E+00	10
KI= 670.4;	FE=025	1.31E+01	7.57E-01	2.16E-01	1.65E+00	10
KI= 677.4;	FE=026	1.46E+01	7.53E-01	2.35E-01	1.61E+00	10
KI= 679.8;	FE=027	2.63E+00	2.17E-01	6.38E-02	2.42E+00	10
KI= 682.0;	FE=028	2.53E+00	1.38E-01	3.69E-02	1.46E+00	10
KI= 684.6;	FE=029	4.64E+00	2.64E-01	8.72E-02	1.88E+00	10
KI= 685.8;	FE=030	1.34E+00	8.30E-02	3.02E-02	2.25E+00	10
$700-n-C7-ANE;	FE=031	2.67E+01	1.43E+00	4.25E-01	1.59E+00	10
KI= 701.8;	FE=032	2.58E-01				1
KI= 708.0;	FE=035	2.39E-01				1
KI= 712.5;	FE=036	1.69E+01	1.04E+00	3.21E-01	1.90E+00	10
KI= 715.6;	FE=037	1.64E+00	1.78E-01	5.53E-02	3.36E+00	10
KI= 719.1;	FE=038	1.24E+00	1.90E-01	6.38E-02	5.14E+00	10
KI= 725.8;	FE=039	1.81E+00	1.16E-01	4.57E-02	2.52E+00	10
KI= 730.0;	FE=040	2.47E+00	1.99E-01	6.83E-02	2.77E+00	10
KI= 731.0;	FE=041	4.45E+00	3.21E-01	1.05E-01	2.36E+00	10
KI= 733.6;	FE=042	1.77E+00	1.33E-01	4.06E-02	2.29E+00	10
KI= 735.0;	FE=043	1.62E+00	1.84E-01	6.50E-02	4.03E+00	10
KI= 741.2;	FE=044	1.69E+00	1.84E-01	6.17E-02	3.65E+00	10
KI= 743.3;	FE=045	5.37E-01	1.21E-01	3.62E-02	6.75E+00	10

TABLE 5 (cont'd)

KI= 745.4;	FE=046	4.36E-01	2.49E-01	7.14E-02	1.64E+01	10
KI= 753.9;	FE=048	6.37E-01	1.81E-01	5.38E-02	8.44E+00	10
KI= 757.1;	FE=049	4.52E+00	4.23E-01	1.18E-01	2.61E+00	10
KI= 758.8;	FE=050	8.57E+00	6.70E-01	2.14E-01	2.50E+00	10
KI= 762.0;	FE=051	2.72E-01	1.51E-01	5.09E-02	1.87E+01	6
KI= 765.3;	FE=052	1.85E+01	1.56E+00	4.19E-01	2.27E+00	10
KI= 766.4;	FE=053	7.74E+00	5.94E-01	1.75E-01	2.26E+00	10
KI= 768.8;	FE=054	4.88E+00	4.85E-01	1.39E-01	2.84E+00	10
KI= 772.4;	FE=056	2.41E+01	1.67E+00	4.61E-01	1.91E+00	10
KI= 775.2;	FE=057	9.24E-01	1.62E-01	4.71E-02	5.10E+00	10
KI= 781.0;	FE=058	1.21E+00	1.31E-01	4.04E-02	3.34E+00	10
KI= 783.2;	FE=059	6.57E-01	1.68E-01	5.14E-02	7.82E+00	10
KI= 784.4;	FE=060	1.28E+00	3.11E-01	1.23E-01	9.57E+00	10
KI= 786.9;	FE=062	2.65E+00	5.36E-01	1.90E-01	7.17E+00	10
KI= 794.4;	FE=064	5.71E-01	2.89E-01	8.98E-02	1.57E+01	10
KI= 795.7;	FE=065	1.49E+00	1.42E-01	4.70E-02	3.16E+00	10
$800-n-C8-ANE;	FE=066	2.83E+01	1.69E+00	5.30E-01	1.87E+00	10
KI= 802.5;	FE=067	2.62E-01	2.55E-02	1.81E-02	6.88E+00	2
KI= 807.1;	FE=069	2.59E-01	3.71E-02	1.32E-02	5.11E+00	7
KI= 812.3;	FE=071	5.72E-01	1.04E-01	3.42E-02	5.99E+00	10
KI= 813.6;	FE=072	2.79E-01	4.56E-02	1.52E-02	5.45E+00	6
KI= 817.0;	FE=073	8.85E-01	8.46E-02	2.56E-02	2.89E+00	10
KI= 818.2;	FE=074	8.34E-01	9.36E-02	2.69E-02	3.23E+00	10
KI= 821.3;	FE=075	2.27E+00	1.68E-01	5.57E-02	2.46E+00	10
KI= 824.2;	FE=076	3.71E+00	8.34E-01	2.73E-01	7.38E+00	10
KI= 825.7;	FE=077	1.01E+00	2.39E-01	8.03E-02	7.96E+00	10
KI= 828.1;	FE=078	5.32E+00	5.16E-01	1.67E-01	3.13E+00	10
KI= 834.4;	FE=079	9.03E+00	1.19E+00	4.21E-01	4.67E+00	10
KI= 837.0;	FE=080	2.37E-01	1.60E-02	7.23E-03	3.05E+00	4
KI= 842.7;	FE=082	1.98E+00	2.18E-01	7.53E-02	3.80E+00	10
KI= 844.2;	FE=083	4.98E-01	6.76E-02	2.34E-02	4.70E+00	10
KI= 850.9;	FE=086	3.87E-01				1
KI= 852.8;	FE=087	2.25E+00	2.31E-01	7.12E-02	3.16E+00	10
KI= 854.4;	FE=088	3.28E+00	1.36E+00	5.39E-01	1.65E+01	10
KI= 856.1;	FE=089	1.02E+00	1.46E-01	5.16E-02	5.08E+00	7
KI= 860.0;	FE=090	1.14E+00	1.46E-01	4.87E-02	4.26E+00	10
KI= 862.2;	FE=091	1.27E+01	1.44E+00	4.06E-01	3.20E+00	10
KI= 863.8;	FE=092	7.21E+00	4.63E-01	1.74E-01	2.41E+00	10
KI= 867.4;	FE=094	4.15E-01	5.51E-02	3.90E-02	9.40E+00	2
KI= 869.5;	FE=095	1.10E+00	4.41E-01	1.35E-01	1.23E+01	10
KI= 871.2;	FE=096	7.12E+00	7.04E-01	2.13E-01	3.00E+00	10
KI= 873.1;	FE=097	2.78E-01	7.66E-02	3.32E-02	1.19E+01	5
KI= 877.1;	FE=098	3.64E-01	1.67E-01	4.98E-02	1.37E+01	10
KI= 880.0;	FE=099	2.74E+00	1.87E-01	5.91E-02	2.16E+00	10
KI= 881.6;	FE=100	1.28E+00	5.14E-01	1.39E-01	1.09E+01	10
KI= 884.5;	FE=102	3.38E+00	6.35E-01	2.12E-01	6.27E+00	10
KI= 887.4;	FE=103	2.54E-01				1
KI= 890.9;	FE=104	2.20E-01				1
KI= 894.6;	FE=106	2.53E-01	4.82E-02	1.87E-02	7.37E+00	5

TABLE 5 (cont'd)

KI= 895.9;	FE=107	2.90E-01	3.30E-02	1.34E-02	4.60E+00	5
KI= 897.6;	FE=108	5.21E-01	8.32E-02	3.47E-02	6.65E+00	6
$900-n-C9-ANE;	FE=109	1.66E+01	2.83E+00	8.41E-01	5.08E+00	10
KI= 901.3;	FE=110	2.58E-01	2.62E-02	1.86E-02	7.20E+00	2
KI= 908.4;	FE=112	1.14E+00	5.25E-01	1.64E-01	1.43E+01	10
KI= 910.8;	FE=113	2.76E-01				1
KI= 913.9;	FE=114	4.02E-01	4.78E-02	1.81E-02	4.51E+00	8
KI= 915.4;	FE=115	2.95E-01	1.22E-01	4.79E-02	1.62E+01	8
KI= 917.7;	FE=116	9.82E-01	7.47E-02	2.18E-02	2.22E+00	10
KI= 920.1;	FE=117	9.01E-01	9.67E-02	2.63E-02	2.92E+00	10
KI= 922.6;	FE=118	2.04E+00	1.38E-01	4.59E-02	2.25E+00	10
KI= 924.7;	FE=119	1.25E+00	1.52E-01	4.31E-02	3.45E+00	10
KI= 929.1;	FE=120	1.59E+00	2.60E-01	8.74E-02	5.49E+00	10
KI= 933.5;	FE=122	3.59E+00	5.14E-01	1.50E-01	4.16E+00	10
KI= 939.4;	FE=123	1.88E+00	1.02E+00	3.43E-01	1.83E+01	10
KI= 941.0;	FE=124	2.30E-01				1
KI= 945.3;	FE=125	1.33E+00	1.78E-01	5.86E-02	4.41E+00	10
KI= 947.4;	FE=126	1.07E+00	1.69E-01	5.20E-02	4.85E+00	10
KI= 952.0;	FE=127	6.73E-01	1.42E-01	5.80E-02	8.62E+00	5
KI= 953.5;	FE=128	1.21E+00	1.49E+00	5.23E-01	4.32E+01	10
KI= 955.8;	FE=129	4.33E+00	1.45E+00	5.03E-01	1.16E+01	10
KI= 956.8;	FE=130	1.34E+00	2.68E-02	1.90E-02	1.42E+00	2
KI= 960.5;	FE=131	8.33E-01	2.25E-01	7.80E-02	9.37E+00	10
KI= 962.1;	FE=132	2.55E+00	3.02E-01	1.06E-01	4.16E+00	10
KI= 964.7;	FE=133	4.86E+00	4.45E-01	1.50E-01	3.10E+00	10
KI= 966.1;	FE=134	1.39E+00	2.99E-01	8.46E-02	6.10E+00	10
KI= 967.4;	FE=135	2.74E-01				1
KI= 970.8;	FE=136	2.34E+00	1.98E-01	5.72E-02	2.45E+00	10
KI= 972.7;	FE=137	1.32E+00	1.52E-01	4.62E-02	3.49E+00	10
KI= 976.9;	FE=139	1.17E+00	4.19E-01	1.34E-01	1.15E+01	10
KI= 979.2;	FE=140	9.57E-01	9.28E-01	2.96E-01	3.09E+01	10
KI= 981.7;	FE=142	3.06E-01	1.42E-01	5.77E-02	1.89E+01	6
KI= 986.2;	FE=144	7.58E+00	4.69E-01	1.34E-01	1.77E+00	10
KI= 993.5;	FE=146	3.52E-01	2.66E-01	8.01E-02	2.27E+01	10
$1000-n-C10-ANE;	FE=149	1.27E+01	6.33E-01	1.96E-01	1.54E+00	10
KI=1003.9;	FE=150	7.59E-01	3.27E-01	1.23E-01	1.62E+01	6
IMPURITY #3(KI=1010.3)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	10
KI=1013.9;	FE=152	3.37E+00	1.60E+00	6.13E-01	1.82E+01	10
KI=1017.0;	FE=153	2.71E-01				1
KI=1019.3;	FE=154	6.26E-01	1.76E-01	7.47E-02	1.19E+01	4
KI=1020.1;	FE=155	6.23E-01	7.67E-01	3.28E-01	5.26E+01	10
KI=1022.9;	FE=156	2.87E+00	5.00E-01	1.96E-01	6.84E+00	10
KI=1025.8;	FE=157	1.93E+00	1.52E-01	4.63E-02	2.40E+00	10
KI=1028.4;	FE=158	1.50E+00	2.93E-01	1.09E-01	7.28E+00	10
KI=1031.6;	FE=159	6.52E-01	5.72E-02	2.02E-02	3.11E+00	10
KI=1034.6;	FE=161	5.36E-01	1.14E-01	2.97E-02	5.54E+00	10
KI=1038.5;	FE=163	6.48E-01	9.11E-02	3.54E-02	5.46E+00	10
KI=1043.2;	FE=165	1.02E+00	2.41E-01	7.81E-02	7.68E+00	10
KI=1044.7;	FE=166	4.56E-01	1.62E-02	8.14E-03	1.78E+00	3

TABLE 5 (cont'd)

KI=1046.4;	FE=167	2.39E+00	1.38E+00	4.36E-01	1.83E+01	10
KI=1049.4;	FE=168	8.06E-01	1.87E+00	7.45E-01	9.25E+01	6
KI=1050.6;	FE=169	5.08E-01	9.68E-01	4.21E-01	8.28E+01	8
KI=1053.8;	FE=170	1.54E+00	1.55E-01	5.16E-02	3.35E+00	10
KI=1055.3;	FE=171	1.80E+00	2.21E-01	6.45E-02	3.58E+00	10
KI=1057.9;	FE=173	1.31E+00	2.19E-01	6.17E-02	4.71E+00	10
KI=1060.8;	FE=174	2.37E+00	1.69E-01	5.70E-02	2.40E+00	10
KI=1064.6;	FE=175	2.02E+00	5.14E-01	2.13E-01	1.05E+01	10
KI=1070.6;	FE=177	1.25E+00				1
KI=1072.8;	FE=178	1.51E+00	2.58E+00	1.23E+00	8.13E+01	10
KI=1079.0;	FE=179	2.62E+00	2.34E+00	8.39E-01	3.20E+01	10
KI=1081.6;	FE=180	3.07E-01	3.27E-01	1.57E-01	5.11E+01	4
KI=1084.3;	FE=181	3.13E-01				1
KI=1087.2;	FE=182	3.47E-01	1.84E-01	5.54E-02	1.59E+01	10
KI=1089.4;	FE=183	3.66E-01	7.27E-02	3.66E-02	1.00E+01	3
KI=1090.8;	FE=184	4.76E-01	1.05E-01	5.49E-02	1.15E+01	3
KI=1093.8;	FE=185	2.78E-01	5.49E-02	1.97E-02	7.07E+00	7
KI=1096.0;	FE=186	7.57E-01	4.91E-01	2.11E-01	2.79E+01	10
$1100-n-C11-ANE;	FE=187	1.61E+01	1.40E+00	4.43E-01	2.75E+00	10
KI=1104.4;	FE=189	4.40E-01	3.42E-01	1.18E-01	2.68E+01	8
KI=1108.4;	FE=191	1.11E+00	4.23E-01	1.51E-01	1.35E+01	10
KI=1110.3;	FE=192	3.61E-01	6.37E-02	2.96E-02	8.18E+00	4
KI=1112.6;	FE=193	1.72E+00	1.25E+00	4.84E-01	2.82E+01	10
KI=1115.8;	FE=194	2.29E+00	6.32E-01	2.46E-01	1.08E+01	10
KI=1123.4;	FE=198	3.48E-01	2.43E-01	7.57E-02	2.17E+01	9
KI=1127.0;	FE=199	1.28E+00	1.17E-01	4.24E-02	3.31E+00	10
KI=1129.4;	FE=200	1.38E+00	1.44E-01	3.86E-02	2.79E+00	10
KI=1132.7;	FE=201	2.69E-01	1.10E-01	4.48E-02	1.67E+01	5
KI=1135.0;	FE=203	5.97E-01	6.46E-01	3.25E-01	5.43E+01	3
KI=1137.1;	FE=204	4.04E-01	1.44E-01	7.43E-02	1.84E+01	3
KI=1139.7;	FE=205	8.02E-01	5.26E-01	1.88E-01	2.35E+01	10
KI=1141.0;	FE=206	9.21E-01	4.11E-01	1.37E-01	1.48E+01	10
KI=1144.0;	FE=207	9.01E-01	2.73E-01	9.99E-02	1.11E+01	10
KI=1148.3;	FE=208	1.72E+00	2.73E-01	7.22E-02	4.20E+00	10
KI=1152.6;	FE=210	1.28E+00	2.40E-01	8.18E-02	6.37E+00	10
KI=1156.1;	FE=212	1.04E+00	3.14E-01	1.16E-01	1.11E+01	10
KI=1158.0;	FE=213	2.90E-01	3.31E-02	1.67E-02	5.77E+00	3
KI=1159.8;	FE=214	2.95E+00	5.31E-01	2.03E-01	6.87E+00	10
KI=1164.2;	FE=216	2.72E+00	1.90E-01	4.75E-02	1.75E+00	10
KI=1170.4;	FE=217	1.50E+00	4.80E-01	1.36E-01	9.05E+00	10
KI=1171.4;	FE=218	2.43E-01	4.17E-02	1.85E-02	7.60E+00	5
KI=1175.9;	FE=219	2.98E-01				1
KI=1179.7;	FE=220	5.11E-01	4.85E-01	1.42E-01	2.78E+01	10
KI=1181.4;	FE=221	6.09E-01	2.48E-01	8.59E-02	1.41E+01	10
KI=1185.3;	FE=222	4.32E-01				1
KI=1189.6;	FE=223	4.75E-01	7.58E-02	2.44E-02	5.14E+00	10
KI=1191.5;	FE=224	2.97E-01	1.09E-01	5.43E-02	1.83E+01	3
KI=1193.9;	FE=225	3.85E-01	2.05E-01	9.51E-02	2.47E+01	4
$1200-n-C12-ANE;	FE=227	1.29E+01	5.90E-01	1.72E-01	1.33E+00	10

TABLE 5 (cont'd)

KI=1205.6;	FE=229	2.82E-01	7.14E-02	5.05E-02	1.79E+01	2
KI=1210.9;	FE=231	2.74E-01	6.88E-02	2.54E-02	9.27E+00	8
KI=1214.2;	FE=232	3.76E+00	5.38E-01	1.64E-01	4.36E+00	10
KI=1218.2;	FE=233	4.18E-01	3.32E-01	1.02E-01	2.44E+01	8
KI=1221.7;	FE=235	6.97E-01	2.87E-01	8.96E-02	1.29E+01	10
KI=1227.8;	FE=237	4.78E-01	4.78E-01	1.64E-01	3.43E+01	6
KI=1233.9;	FE=238	1.62E+00	6.73E-02	2.30E-02	1.42E+00	10
KI=1238.6;	FE=239	9.51E-01	1.48E-01	4.98E-02	5.24E+00	10
KI=1241.7;	FE=240	2.35E-01	2.05E-03	1.45E-03	6.17E-01	2
KI=1245.4;	FE=241	2.69E-01				1
KI=1248.5;	FE=242	8.49E-01	6.40E-02	1.97E-02	2.32E+00	10
KI=1252.8;	FE=243	6.67E-01	1.01E-01	3.05E-02	4.58E+00	10
KI=1254.8;	FE=244	5.72E-01	5.64E-02	1.70E-02	2.97E+00	10
KI=1259.3;	FE=245	1.14E+00	8.43E-02	2.79E-02	2.45E+00	10
KI=1264.0;	FE=246	1.63E+00	8.38E-02	2.92E-02	1.79E+00	10
KI=1267.6;	FE=247	2.55E-01				1
KI=1270.2;	FE=248	1.00E+00	5.67E-01	1.75E-01	1.74E+01	10
KI=1273.1;	FE=249	3.00E+00	6.03E-01	1.93E-01	6.45E+00	10
KI=1276.1;	FE=250	2.48E-01	2.67E-02	1.89E-02	7.62E+00	2
KI=1282.7;	FE=253	2.61E+00	3.21E-01	9.68E-02	3.71E+00	10
$1300-n-C13-ANE;	FE=257	1.05E+01	1.32E+00	5.14E-01	4.89E+00	10
KI=1304.4;	FE=258	9.52E-01	9.01E-02	4.57E-02	4.80E+00	4
KI=1309.6;	FE=259	4.56E-01	3.06E-01	1.31E-01	2.86E+01	4
KI=1311.5;	FE=260	4.90E-01	8.66E-02	4.27E-02	8.73E+00	4
KI=1318.0;	FE=262	6.59E-01	2.43E-01	7.32E-02	1.11E+01	10
KI=1323.1;	FE=263	2.75E-01				1
KI=1328.0;	FE=264	5.14E-01				1
KI=1333.4;	FE=265	6.49E-01	5.56E-01	1.84E-01	2.84E+01	9
KI=1338.4;	FE=266	6.88E-01	1.68E-01	5.91E-02	8.60E+00	10
KI=1342.2;	FE=267	3.37E-01	1.25E-01	5.34E-02	1.58E+01	4
KI=1351.1;	FE=270	6.21E-01	3.69E-01	1.14E-01	1.84E+01	10
KI=1354.0;	FE=271	4.13E-01	2.55E-01	8.52E-02	2.06E+01	10
KI=1358.9;	FE=272	4.73E-01	1.18E-01	3.68E-02	7.79E+00	9
KI=1364.0;	FE=273	1.01E+00	2.62E-01	7.62E-02	7.55E+00	10
KI=1370.3;	FE=274	4.43E-01	1.16E-01	3.28E-02	7.40E+00	10
KI=1376.7;	FE=275	1.73E+00	1.18E-01	3.13E-02	1.81E+00	10
KI=1383.0;	FE=276	2.56E-01	1.00E-01	4.29E-02	1.67E+01	4
KI=1388.6;	FE=277	2.80E-01	1.23E-01	7.10E-02	2.53E+01	3
KI=1393.4;	FE=278	8.41E-01	7.76E-01	2.92E-01	3.47E+01	8
$1400-n-C14-ANE;	FE=279	5.21E+00	5.14E-01	1.77E-01	3.40E+00	10
KI=1404.0;	FE=280	3.28E-01	1.43E-01	4.16E-02	1.27E+01	8
KI=1407.9;	FE=281	9.08E-01	5.35E-01	1.59E-01	1.75E+01	9
KI=1411.1;	FE=282	9.01E-01	4.40E-01	1.27E-01	1.41E+01	9
KI=1413.6;	FE=283	6.50E-01				1
KI=1427.2;	FE=286	2.43E-01	3.46E-02	1.61E-02	6.62E+00	4
KI=1430.3;	FE=287	2.42E-01				1
KI=1462.7;	FE=294	1.06E+00	2.79E-01	9.19E-02	8.64E+00	9
KI=1470.7;	FE=295	2.58E-01				1
$1500-n-C15-ANE;	FE=296	1.42E+00	9.37E-02	3.15E-02	2.23E+00	10

TABLE 5 (concluded)

IMPURITY #4(KI=1505.9)	0.00E+00	0.00E+00	0.00E+00	1.70E+38	8
$1600-n-C16-ANE:FE=297	2.62E-01	8.67E-02	3.24E-02	1.24E+01	6
$ANTH-d10(IS)(KI=1772)	1.02E+02	0.00E+00	0.00E+00	0.00E+00	10
IMPURITY #6(KI=1946.5)	0.00E+00				1
$2118-(IMPURITY #8)	0.00E+00	0.00E+00	0.00E+00	1.70E+38	10
TOTAL CONCENTRATION	5.85E+02	4.95E+01	1.55E+01	2.64E+00	10

:RUN,REF7,MH08

TABLE 6. REP8 OUTPUT OF A DATA BASE CONTAINING 10 ANALYSES OF THE DILUTED JP-4 REFERENCE FUEL WHICH HAS BEEN EQUILIBRATED OVERNIGHT WITH WATER

STATISTICAL SUMMARY OF MH08 DATA BASE

CONSISTING OF 10 SAMPLES
CONCENTRATION (mg/mL)

COMPOUND NAME		AVERAGE	RANGE	STANDARD DEVIATION	%REL STANDARD DEVIATION	NUMBER OF SAMPLES
IMPURITY #1(KI=	368.3)	0.00E+00	0.00E+00	0.00E+00	1.70E+38	4
KI= 388.0;	FE=002	5.01E-01	2.15E-01	5.54E-02	1.11E+01	10
$400-n-C4-ANE;	FE=003	1.52E+00	1.73E-01	6.07E-02	4.00E+00	10
KI= 457.6;	FE=004	6.38E+00	2.14E+00	6.28E-01	9.84E+00	10
$500-n-C5-ANE;	FE=005	7.83E+00	8.23E+00	2.88E+00	3.68E+01	10
CS2 SOLVENT		0.00E+00	0.00E+00	0.00E+00	1.70E+38	10
KI= 549.7;	FE=010	1.85E+00	1.10E+00	3.51E-01	1.89E+01	10
KI= 552.4;	FE=011	1.30E+00	6.10E-01	2.24E-01	1.73E+01	10
KI= 560.4;	FE=012	1.19E+01	2.19E+00	7.83E-01	6.59E+00	10
KI= 577.3;	FE=013	7.89E+00	4.27E+00	1.55E+00	1.97E+01	10
$600-n-C6-ANE;	FE=014	2.09E+01	1.94E+00	6.60E-01	3.16E+00	10
KI= 624.8;	FE=018	9.95E+00	1.15E+00	3.40E-01	3.42E+00	10
KI= 632.4;	FE=020	2.24E+00	1.97E-01	6.92E-02	3.10E+00	10
KI= 653.0;	FE=021	1.31E+00	1.96E-01	6.83E-02	5.23E+00	10
KI= 656.1;	FE=022	1.05E+01	1.03E+00	3.42E-01	3.26E+00	10
KI= 658.8;	FE=023	1.95E+01	1.19E+00	4.54E-01	2.33E+00	10
IMPURITY #2(KI=	665.8)	0.00E+00	0.00E+00	0.00E+00	1.70E+38	10
KI= 669.0;	FE=024	4.84E+00	5.35E-01	1.71E-01	3.54E+00	10
KI= 670.4;	FE=025	1.60E+01	1.61E+00	5.16E-01	3.22E+00	10
KI= 677.4;	FE=026	1.79E+01	1.66E+00	5.66E-01	3.17E+00	10
KI= 679.8;	FE=027	3.25E+00	2.97E-01	1.05E-01	3.23E+00	10
KI= 682.0;	FE=028	3.09E+00	2.49E-01	9.43E-02	3.05E+00	10
KI= 684.6;	FE=029	5.67E+00	4.66E-01	1.67E-01	2.94E+00	10
KI= 685.8;	FE=030	1.65E+00	3.05E-01	8.92E-02	5.40E+00	10
$700-n-C7-ANE;	FE=031	3.26E+01	3.15E+00	1.02E+00	3.13E+00	10
KI= 712.5;	FE=036	2.05E+01	1.85E+00	5.94E-01	2.89E+00	10
KI= 715.6;	FE=037	1.95E+00	1.63E-01	4.69E-02	2.40E+00	10
KI= 719.1;	FE=038	1.44E+00	1.60E-01	5.38E-02	3.73E+00	10
KI= 725.8;	FE=039	2.20E+00	2.50E-01	8.29E-02	3.77E+00	10
KI= 730.0;	FE=040	3.02E+00	2.71E-01	9.50E-02	3.15E+00	10
KI= 731.0;	FE=041	5.40E+00	4.18E-01	1.51E-01	2.80E+00	10
KI= 733.6;	FE=042	2.13E+00	1.93E-01	5.47E-02	2.57E+00	10
KI= 735.0;	FE=043	1.94E+00	2.54E-01	7.63E-02	3.94E+00	10
KI= 741.2;	FE=044	2.05E+00	1.94E-01	6.03E-02	2.94E+00	10
KI= 743.3;	FE=045	6.67E-01	9.13E-02	3.35E-02	5.02E+00	10
KI= 745.4;	FE=046	5.79E-01	1.38E-01	5.31E-02	9.17E+00	10
KI= 753.9;	FE=048	7.77E-01	1.48E-01	4.31E-02	5.55E+00	10
KI= 757.1;	FE=049	5.50E+00	5.08E-01	1.91E-01	3.47E+00	10
KI= 758.8;	FE=050	1.04E+01	9.81E-01	3.47E-01	3.33E+00	10

TABLE 6 (cont'd)

KI= 762.0;	FE=051	3.48E-01	2.41E-01	7.68E-02	2.21E+01	7
KI= 765.3;	FE=052	2.24E+01	2.16E+00	6.92E-01	3.09E+00	10
KI= 766.4;	FE=053	9.53E+00	8.79E-01	2.88E-01	3.02E+00	10
KI= 768.8;	FE=054	5.96E+00	5.38E-01	1.74E-01	2.92E+00	10
KI= 772.4;	FE=056	2.93E+01	2.64E+00	8.71E-01	2.97E+00	10
KI= 775.2;	FE=057	1.11E+00	1.31E-01	4.11E-02	3.71E+00	10
KI= 781.0;	FE=058	1.46E+00	1.86E-01	5.82E-02	3.99E+00	10
KI= 783.2;	FE=059	7.54E-01	5.81E-01	1.70E-01	2.25E+01	10
KI= 784.4;	FE=060	1.50E+00	7.51E-01	2.46E-01	1.64E+01	10
KI= 786.9;	FE=062	3.21E+00	9.08E-01	2.93E-01	9.13E+00	10
KI= 794.4;	FE=064	5.36E-01	3.76E-01	1.43E-01	2.66E+01	10
KI= 795.7;	FE=065	1.74E+00	3.19E-01	9.38E-02	5.39E+00	10
$800-n-C8-ANE;	FE=066	3.45E+01	3.06E+00	1.09E+00	3.18E+00	10
KI= 807.1;	FE=069	3.01E-01	6.73E-02	2.48E-02	8.22E+00	10
KI= 812.3;	FE=071	7.15E-01	9.78E-02	3.54E-02	4.95E+00	10
KI= 813.6;	FE=072	3.47E-01	1.47E-01	4.61E-02	1.33E+01	10
KI= 817.0;	FE=073	1.08E+00	1.47E-01	4.52E-02	4.17E+00	10
KI= 818.2;	FE=074	1.02E+00	1.72E-01	4.96E-02	4.87E+00	10
KI= 821.3;	FE=075	2.79E+00	3.24E-01	1.01E-01	3.61E+00	10
KI= 824.2;	FE=076	4.63E+00	2.19E+00	6.49E-01	1.40E+01	10
KI= 825.7;	FE=077	1.20E+00	3.28E-01	1.04E-01	8.68E+00	9
KI= 828.1;	FE=078	6.62E+00	1.11E+00	3.31E-01	5.00E+00	10
KI= 834.4;	FE=079	1.09E+01	1.92E+00	7.43E-01	6.81E+00	9
KI= 837.0;	FE=080	3.86E-01	2.97E-01	1.65E-01	4.27E+01	3
KI= 842.7;	FE=082	2.21E+00	1.91E+00	5.98E-01	2.70E+01	9
KI= 844.2;	FE=083	6.26E-01	1.01E-01	3.91E-02	6.24E+00	8
KI= 850.9;	FE=086	3.23E-01	1.17E-01	8.25E-02	2.55E+01	2
KI= 852.8;	FE=087	3.00E+00	1.46E+00	4.94E-01	1.65E+01	10
KI= 854.4;	FE=088	3.86E+00	3.75E+00	1.13E+00	2.94E+01	10
KI= 856.1;	FE=089	1.30E+00	2.02E-01	8.87E-02	6.85E+00	4
KI= 860.0;	FE=090	1.40E+00	1.90E-01	5.76E-02	4.13E+00	9
KI= 862.2;	FE=091	1.59E+01	1.62E+01	4.01E+00	2.52E+01	10
KI= 863.8;	FE=092	8.97E+00	1.16E+00	4.72E-01	5.26E+00	8
KI= 867.4;	FE=094	9.12E-01	1.20E+00	5.73E-01	6.28E+01	4
KI= 869.5;	FE=095	1.46E+00	6.19E-01	2.42E-01	1.66E+01	8
KI= 871.2;	FE=096	9.16E+00	3.54E+00	1.02E+00	1.11E+01	9
KI= 873.1;	FE=097	3.55E-01	2.27E-01	7.50E-02	2.11E+01	9
KI= 877.1;	FE=098	4.56E-01	1.82E-01	5.52E-02	1.21E+01	9
KI= 880.0;	FE=099	3.56E+00	2.08E+00	6.17E-01	1.73E+01	9
KI= 881.6;	FE=100	1.59E+00	3.35E-01	9.60E-02	6.06E+00	8
KI= 884.5;	FE=102	4.40E+00	9.53E-01	2.37E-01	5.38E+00	10
KI= 894.6;	FE=106	2.71E-01				1
KI= 895.9;	FE=107	4.45E-01	4.39E-01	2.24E-01	5.03E+01	3
KI= 897.6;	FE=108	6.62E-01	1.99E-01	7.21E-02	1.09E+01	7
$900-n-C9-ANE;	FE=109	2.04E+01	3.16E+00	1.00E+00	4.89E+00	10
KI= 901.3;	FE=110	3.32E-01				1
KI= 908.4;	FE=112	1.48E+00	5.30E-01	1.55E-01	1.05E+01	10
KI= 913.9;	FE=114	4.89E-01	2.88E-01	8.03E-02	1.64E+01	9
KI= 915.4;	FE=115	4.17E-01	5.53E-01	1.55E-01	3.71E+01	9

TABLE 6 (cont'd)

KI= 917.7;	FE=116	1.28E+00	5.20E-01	1.58E-01	1.24E+01	9
KI= 920.1;	FE=117	1.10E+00	5.40E-01	1.33E-01	1.21E+01	10
KI= 922.6;	FE=118	2.55E+00	4.74E-01	1.42E-01	5.58E+00	10
KI= 924.7;	FE=119	1.47E+00	5.93E-01	1.72E-01	1.18E+01	10
KI= 929.1;	FE=120	1.92E+00	7.41E-01	2.28E-01	1.19E+01	10
KI= 933.5;	FE=122	4.31E+00	9.69E-01	2.93E-01	6.80E+00	10
KI= 939.4;	FE=123	2.34E+00	1.49E+00	4.16E-01	1.77E+01	10
KI= 941.0;	FE=124	2.96E-01				1
KI= 945.3;	FE=125	1.56E+00	3.41E-01	1.06E-01	6.80E+00	10
KI= 947.4;	FE=126	1.30E+00	2.76E-01	8.19E-02	6.32E+00	10
KI= 952.0;	FE=127	9.30E-01	4.83E-01	2.27E-01	2.44E+01	4
KI= 953.5;	FE=128	1.17E+00	1.13E+00	4.86E-01	4.17E+01	10
KI= 955.8;	FE=129	4.89E+00	3.03E+00	1.13E+00	2.31E+01	10
KI= 956.8;	FE=130	1.60E+00	5.26E-01	2.21E-01	1.39E+01	4
KI= 960.5;	FE=131	9.60E-01	5.10E-01	1.50E-01	1.57E+01	9
KI= 962.1;	FE=132	3.11E+00	2.03E+00	5.17E-01	1.66E+01	10
KI= 964.7;	FE=133	5.69E+00	1.59E+00	4.78E-01	8.40E+00	9
KI= 966.1;	FE=134	1.45E+00	1.24E+00	4.12E-01	2.85E+01	10
KI= 967.4;	FE=135	2.97E-01				1
KI= 970.8;	FE=136	2.76E+00	5.11E-01	1.82E-01	6.58E+00	10
KI= 972.7;	FE=137	1.58E+00	4.38E-01	1.33E-01	8.40E+00	10
KI= 976.9;	FE=139	1.41E+00	8.14E-01	2.52E-01	1.78E+01	10
KI= 979.2;	FE=140	1.14E+00	1.26E+00	4.20E-01	3.69E+01	10
KI= 980.2;	FE=141	4.06E-01				1
KI= 981.7;	FE=142	4.19E-01	2.58E-01	1.02E-01	2.44E+01	7
KI= 986.2;	FE=144	9.25E+00	8.68E-01	3.26E-01	3.53E+00	10
KI= 993.5;	FE=146	5.53E-01	4.91E-01	1.61E-01	2.91E+01	10
$1000-n-C10-ANE;	FE=149	1.55E+01	1.43E+00	5.07E-01	3.28E+00	10
KI=1003.9;	FE=150	9.98E-01	1.94E-01	5.90E-02	5.91E+00	9
IMPURITY #3(KI=1010.3)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	10
KI=1013.9;	FE=152	3.80E+00	3.86E+00	1.15E+00	3.02E+01	10
KI=1017.0;	FE=153	4.94E-01	3.77E-01	2.66E-01	5.39E+01	2
KI=1019.3;	FE=154	7.54E-01	1.65E-01	7.13E-02	9.45E+00	6
KI=1020.1;	FE=155	9.28E-01	8.17E-01	3.23E-01	3.48E+01	9
KI=1022.9;	FE=156	3.59E+00	6.48E-01	2.20E-01	6.13E+00	10
KI=1025.8;	FE=157	2.22E+00	1.09E+00	3.13E-01	1.41E+01	10
KI=1028.4;	FE=158	1.92E+00	5.76E-01	1.68E-01	8.75E+00	9
KI=1031.6;	FE=159	8.18E-01	5.72E-01	1.44E-01	1.77E+01	10
KI=1034.6;	FE=161	7.40E-01	6.83E-01	1.97E-01	2.66E+01	10
KI=1036.6;	FE=162	4.58E-01				1
KI=1038.5;	FE=163	7.87E-01	2.96E-01	8.65E-02	1.10E+01	10
KI=1043.2;	FE=165	1.30E+00	6.67E-01	1.75E-01	1.35E+01	10
KI=1044.7;	FE=166	6.18E-01				1
KI=1047.4;	FE=167	2.71E+00	1.64E+00	6.94E-01	2.56E+01	10
KI=1049.4;	FE=168	1.36E+00	2.18E+00	1.20E+00	8.81E+01	4
KI=1050.6;	FE=169	1.15E+00	2.66E+00	1.25E+00	1.08E+02	6
KI=1053.8;	FE=170	1.88E+00	2.41E-01	7.46E-02	3.97E+00	10
KI=1055.3;	FE=171	2.13E+00	7.39E-01	2.11E-01	9.90E+00	10
KI=1057.9;	FE=173	1.62E+00	2.82E-01	9.01E-02	5.57E+00	10

TABLE 6 (cont'd)

KI=1060.8;	FE=174	2.80E+00	5.73E-01	1.83E-01	6.55E+00	10
KI=1064.6;	FE=175	2.46E+00	8.04E-01	2.92E-01	1.19E+01	10
KI=1070.6;	FE=177	1.52E+00	7.79E-01	4.26E-01	2.80E+01	3
KI=1072.8;	FE=178	1.57E+00	3.27E+00	1.30E+00	8.28E+01	10
KI=1079.0;	FE=179	2.87E+00	3.13E+00	1.02E+00	3.55E+01	10
KI=1081.6;	FE=180	2.91E-01	9.09E-02	5.05E-02	1.73E+01	3
KI=1087.2;	FE=182	3.80E-01	3.67E-02	1.28E-02	3.37E+00	9
KI=1089.4;	FE=183	4.21E-01	8.64E-02	3.59E-02	8.52E+00	5
KI=1090.8;	FE=184	6.67E-01	4.50E-01	1.67E-01	2.50E+01	6
KI=1093.8;	FE=185	3.36E-01	4.67E-02	1.75E-02	5.21E+00	7
KI=1096.0;	FE=186	1.07E+00	1.15E-01	3.85E-02	3.61E+00	9
$1100-n-C11-ANE;	FE=187	1.97E+01	1.85E+00	5.58E-01	2.83E+00	10
KI=1104.4;	FE=189	4.35E-01	4.60E-01	1.86E-01	4.27E+01	5
KI=1108.4;	FE=191	1.27E+00	4.20E-01	1.46E-01	1.15E+01	10
KI=1110.3;	FE=192	5.78E-01				1
KI=1112.6;	FE=193	1.84E+00	1.62E+00	6.05E-01	3.29E+01	10
KI=1115.8;	FE=194	2.57E+00	1.09E+00	3.06E-01	1.19E+01	10
KI=1123.4;	FE=198	3.87E-01	1.25E-01	4.05E-02	1.05E+01	10
KI=1127.0;	FE=199	1.56E+00	3.02E-01	1.04E-01	6.70E+00	10
KI=1129.4;	FE=200	1.65E+00	6.70E-01	1.78E-01	1.08E+01	10
KI=1132.7;	FE=201	2.93E-01	6.46E-02	4.57E-02	1.56E+01	2
KI=1135.0;	FE=203	1.40E+00	1.88E+00	1.33E+00	9.49E+01	2
KI=1137.1;	FE=204	5.58E-01				1
KI=1139.7;	FE=205	1.15E+00	9.72E-01	3.31E-01	2.87E+01	10
KI=1141.0;	FE=206	1.24E+00	8.16E-01	2.47E-01	1.98E+01	10
KI=1144.0;	FE=207	1.13E+00	1.12E+00	2.75E-01	2.44E+01	10
KI=1148.3;	FE=208	2.10E+00	8.23E-01	2.27E-01	1.08E+01	10
KI=1152.6;	FE=210	1.44E+00	1.34E+00	3.66E-01	2.53E+01	10
KI=1156.1;	FE=212	1.19E+00	9.33E-01	2.57E-01	2.15E+01	10
KI=1158.0;	FE=213	4.19E-01	3.06E-03	2.16E-03	5.16E-01	2
KI=1159.8;	FE=214	3.53E+00	1.24E+00	3.54E-01	1.00E+01	10
KI=1164.2;	FE=216	3.28E+00	4.92E-01	1.43E-01	4.37E+00	10
KI=1170.4;	FE=217	1.72E+00	9.73E-01	3.06E-01	1.78E+01	10
KI=1171.4;	FE=218	2.94E-01	2.79E-02	1.97E-02	6.71E+00	2
KI=1179.7;	FE=220	6.35E-01	5.68E-01	1.71E-01	2.70E+01	10
KI=1181.4;	FE=221	7.42E-01	5.79E-01	1.78E-01	2.39E+01	10
KI=1185.3;	FE=222	3.20E-01				1
KI=1189.6;	FE=223	5.84E-01	2.25E-01	6.29E-02	1.08E+01	10
KI=1191.5;	FE=224	3.55E-01				1
KI=1193.9;	FE=225	6.46E-01				1
$1200-n-C12-ANE;	FE=227	1.57E+01	1.44E+00	4.84E-01	3.08E+00	10
KI=1205.6;	FE=229	2.96E-01				1
KI=1210.9;	FE=231	3.24E-01	7.85E-02	2.35E-02	7.26E+00	9
KI=1214.2;	FE=232	4.64E+00	5.69E-01	1.88E-01	4.05E+00	10
KI=1218.2;	FE=233	4.71E-01	3.54E-01	1.11E-01	2.36E+01	10
KI=1221.7;	FE=235	8.67E-01	2.00E-01	7.30E-02	8.42E+00	10
KI=1227.8;	FE=237	6.92E-01	4.55E-01	1.85E-01	2.68E+01	5
KI=1233.9;	FE=238	1.98E+00	1.98E-01	6.83E-02	3.45E+00	10
KI=1238.6;	FE=239	1.10E+00	6.36E-01	1.90E-01	1.72E+01	10

TABLE 6 (concluded)

KI=1241.7;	FE=240	2.81E-01	2.82E-02	1.33E-02	4.73E+00	4
KI=1245.4;	FE=241	2.98E-01	3.78E-02	1.75E-02	5.87E+00	4
KI=1248.5;	FE=242	1.03E+00	4.61E-01	1.26E-01	1.23E+01	10
KI=1252.8;	FE=243	7.09E-01	4.25E-01	1.39E-01	1.96E+01	10
KI=1254.8;	FE=244	5.88E-01	4.08E-01	1.85E-01	3.14E+01	10
KI=1259.3;	FE=245	1.27E+00	4.72E-01	1.87E-01	1.48E+01	10
KI=1264.0;	FE=246	1.98E+00	3.70E-01	1.07E-01	5.38E+00	10
KI=1270.2;	FE=248	1.11E+00	6.99E-01	1.72E-01	1.55E+01	10
KI=1273.1;	FE=249	3.64E+00	7.41E-01	2.67E-01	7.35E+00	10
KI=1276.1;	FE=250	2.80E-01	6.93E-03	3.53E-03	1.26E+00	3
KI=1282.7;	FE=253	3.16E+00	3.45E-01	1.14E-01	3.60E+00	10
$1300-n-C13-ANE;	FE=257	1.27E+01	2.14E+00	7.38E-01	5.81E+00	10
KI=1304.4;	FE=258	1.06E+00	2.08E-01	8.40E-02	7.96E+00	5
KI=1309.6;	FE=259	4.51E-01	3.00E-01	1.31E-01	2.90E+01	5
KI=1311.5;	FE=260	5.74E-01	2.77E-01	1.54E-01	2.68E+01	3
KI=1318.0;	FE=262	8.23E-01	2.12E-01	7.18E-02	8.72E+00	10
KI=1333.4;	FE=265	6.16E-01	6.94E-01	2.34E-01	3.80E+01	8
KI=1338.4;	FE=266	7.64E-01	2.93E-01	1.03E-01	1.34E+01	10
KI=1342.2;	FE=267	3.56E-01	1.55E-01	5.35E-02	1.50E+01	7
KI=1351.1;	FE=270	6.85E-01	2.61E-01	1.05E-01	1.54E+01	10
KI=1354.0;	FE=271	4.16E-01	3.47E-01	1.41E-01	3.38E+01	9
KI=1358.9;	FE=272	5.94E-01	2.79E-01	7.41E-02	1.25E+01	10
KI=1364.0;	FE=273	1.25E+00	2.63E-01	7.74E-02	6.21E+00	10
KI=1370.3;	FE=274	5.30E-01	8.59E-02	2.64E-02	4.98E+00	10
KI=1376.7;	FE=275	2.10E+00	2.22E-01	7.69E-02	3.66E+00	10
KI=1383.0;	FE=276	2.81E-01	3.67E-02	1.46E-02	5.18E+00	5
KI=1388.6;	FE=277	2.86E-01	1.06E-01	4.31E-02	1.51E+01	5
KI=1393.4;	FE=278	1.13E+00	9.09E-01	3.36E-01	2.96E+01	7
$1400-n-C14-ANE;	FE=279	6.39E+00	1.11E+00	3.53E-01	5.52E+00	10
KI=1404.0;	FE=280	4.15E-01	1.79E-01	5.46E-02	1.32E+01	8
KI=1407.9;	FE=281	1.08E+00	6.26E-01	2.22E-01	2.05E+01	10
KI=1411.1;	FE=282	1.01E+00	6.91E-01	2.45E-01	2.43E+01	10
KI=1427.2;	FE=286	2.89E-01	4.63E-02	2.05E-02	7.09E+00	4
KI=1442.7;	FE=294	1.35E+00	3.04E-01	9.79E-02	7.26E+00	10
$1500-n-C15-ANE;	FE=296	1.72E+00	3.09E-01	9.82E-02	5.14E+00	10
IMPURITY #4(KI=1505.9)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	5
$1600-n-C16-ANE;	FE=297	3.39E-01	6.80E-02	2.55E-02	7.52E+00	6
$ANTH-d10(IS)(KI=1772)		1.02E+02	0.00E+00	0.00E+00	0.00E+00	10
IMPURITY #7(KI=1952.8)		0.00E+00				1
$2118-(IMPURITY #8)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	10
TOTAL CONCENTRATION		7.12E+02	5.89E+01	2.27E+01	3.19E+00	10

:RUN,REF7,MH08

TABLE 7. COMPARISON OF NORMAL HYDROCARBON OF CONCENTRATIONS MEASURED IN DILUTED JP-4 ANALYSES, DILUTED JP-4 FUEL EQUILIBRATED WITH WATER, AND THE NEAT FUEL ANALYSES REPORTED IN REFERENCE 1

COMPOUND NAME	CONCENTRATION (mg/ml) NEAT FUEL (from REFERENCE 1)	JP-4 FUEL (DILUTED)	JP-4 FUEL (DILUTED AND EQUILIBRATED)
$400-(KI= 400)M	1.20	1.33	1.52
$500-(KI= 500)M	8.08	4.69	7.83
$600-(KI= 600)M	15.9	17.2	20.9
$700-(KI= 700)M	25.1	26.7	32.6
$800-(KI= 800)M	27.0	28.3	34.5
$900-(KI= 900)M	16.3	16.6	20.4
$1000-(KI= 1000)M	13.0	12.7	15.5
$1100-(KI= 1100)M	15.5	16.1	19.7
$1200-(KI= 1200)M	12.7	12.9	15.7
$1300-(KI= 1300)M	10.8	10.5	12.7
$1400-(KI= 1400)M	5.23	5.21	6.39
$1500-(KI= 1500)M	1.49	1.42	1.72
$1600-(KI= 1600)M	0.237	0.263	0.339

TABLE 8. REP6 OUTPUT OF A DATA BASE CONTAINING 18 WATER SOLUBLE FEATURE ANALYSES OF THE REFERENCE JP-4 FUEL IN UNITS OF μG/L

STATISTICAL SUMMARY OF MH08 DATA BASE

CONSISTING OF 18 SAMPLES
CONCENTRATION (ug/L)

COMPOUND NAME		AVERAGE	RANGE	STANDARD DEVIATION	%REL STANDARD DEVIATION	NUMBER OF SAMPLES
IMPURITY #1(KI= 368.3)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	17
KI= 377.2;	FE=001	3.80E+01	2.32E+01	6.49E+00	1.71E+01	18
KI= 388.0;	FE=002	7.03E+01	3.72E+01	1.10E+01	1.56E+01	18
$400-n-C4-ANE;	FE=003	2.67E+02	1.37E+02	3.78E+01	1.41E+01	18
KI= 457.6;	FE=004	9.25E+01	4.27E+02	1.50E+02	1.62E+02	15
$500-n-C5-ANE;	FE=005	5.56E+02	6.97E+02	1.94E+02	3.48E+01	18
CS2 SOLVENT		0.00E+00	0.00E+00	0.00E+00	1.70E+38	18
KI= 549.7;	FE=010	2.04E+02	3.06E+02	1.00E+02	4.91E+01	18
KI= 552.4;	FE=011	1.07E+01	5.19E+00	2.67E+00	2.49E+01	3
KI= 560.4;	FE=012	1.77E+02	2.24E+02	9.40E+01	5.31E+01	5
KI= 577.3;	FE=013	1.93E+02	8.12E+01	2.32E+01	1.20E+01	18
$600-n-C6-ANE;	FE=014	3.52E+02	1.44E+02	3.64E+01	1.04E+01	18
KI= 609.2;	FE=015	1.47E+01	2.21E+01	7.51E+00	5.11E+01	8
KI= 611.2;	FE=016	1.03E+01	4.93E+00	2.30E+00	2.23E+01	4
KI= 613.9;	FE=017	1.99E+01	2.61E+01	8.66E+00	4.35E+01	14
KI= 624.8;	FE=018	5.98E+02	2.62E+02	6.98E+01	1.17E+01	18
KI= 627.3;	FE=019	1.23E+01	1.11E+01	3.72E+00	3.03E+01	10
KI= 632.4;	FE=020	1.19E+01	8.33E+00	3.05E+00	2.56E+01	12
KI= 653.0;	FE=021	4.64E+01	2.62E+01	7.00E+00	1.51E+01	18
KI= 656.1;	FE=022	7.85E+02	3.24E+02	9.06E+01	1.15E+01	18
KI= 658.8;	FE=023	1.34E+04	5.26E+03	1.25E+03	9.39E+00	18
IMPURITY #2(KI= 665.8)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	18
KI= 669.0;	FE=024	2.74E+01	3.09E+01	1.09E+01	3.96E+01	18
KI= 670.4;	FE=025	9.13E+01	8.93E+01	2.09E+01	2.29E+01	18
KI= 677.4;	FE=026	9.44E+01	3.99E+01	1.10E+01	1.17E+01	18
KI= 679.8;	FE=027	4.87E+01	2.51E+01	6.25E+00	1.28E+01	18
KI= 682.0;	FE=028	4.86E+01	2.05E+01	5.08E+00	1.05E+01	18
KI= 684.6;	FE=029	8.10E+01	4.50E+01	1.21E+01	1.50E+01	18
KI= 685.8;	FE=030	9.72E+00	3.86E+00	1.26E+00	1.29E+01	8
$700-n-C7-ANE;	FE=031	1.57E+02	6.84E+01	1.76E+01	1.12E+01	18
KI= 701.8;	FE=032	1.39E+01	8.37E+00	5.92E+00	4.27E+01	2
KI= 708.0;	FE=035	8.00E+00	3.44E+00	1.85E+00	2.31E+01	3
KI= 712.5;	FE=036	3.86E+02	1.55E+02	4.51E+01	1.17E+01	18
KI= 715.6;	FE=037	1.10E+01	7.23E+00	2.77E+00	2.52E+01	8
KI= 725.8;	FE=039	3.10E+01	1.75E+01	5.35E+00	1.73E+01	18
KI= 731.0;	FE=041	1.06E+01	9.55E+00	3.70E+00	3.49E+01	11
KI= 733.6;	FE=042	1.04E+01	3.85E+00	1.76E+00	1.70E+01	4
KI= 741.2;	FE=044	1.10E+01	8.88E+00	2.92E+00	2.66E+01	9
KI= 745.4;	FE=046	1.05E+01				1
KI= 749.9;	FE=047	8.09E+00				

TABLE 8 (cont'd)

KI= 753.9;	FE=048	9.32E+00	3.95E+00	1.70E+00	1.82E+01	4
KI= 757.1;	FE=049	1.30E+01	1.46E+01	4.03E+00	3.10E+01	13
KI= 758.8;	FE=050	9.48E+03	4.16E+03	1.00E+03	1.06E+01	18
KI= 762.0;	FE=051	2.06E+01	1.35E+01	7.38E+00	3.58E+01	3
KI= 765.3;	FE=052	1.69E+01	2.58E+01	7.27E+00	4.30E+01	17
KI= 766.4;	FE=053	1.25E+01	6.94E+00	4.91E+00	3.93E+01	2
KI= 768.8;	FE=054	2.17E+01	1.65E+01	3.57E+00	1.65E+01	18
KI= 770.6;	FE=055	1.17E+01	8.36E+00	3.07E+00	2.62E+01	6
KI= 772.4;	FE=056	2.91E+01	3.05E+01	9.28E+00	3.19E+01	17
KI= 775.2;	FE=057	1.01E+01	7.01E+00	3.11E+00	3.08E+01	4
KI= 781.0;	FE=058	8.31E+00				1
KI= 784.4;	FE=060	1.02E+01	4.78E+00	2.26E+00	2.21E+01	5
KI= 786.9;	FE=062	1.59E+01	6.58E+00	1.94E+00	1.22E+01	16
KI= 795.7;	FE=065	1.06E+01	9.67E+00	3.90E+00	3.68E+01	6
$800-n-C8-ANE;	FE=066	2.40E+01	4.35E+01	1.28E+01	5.36E+01	17
KI= 808.9;	FE=070	7.96E+00				1
KI= 818.2;	FE=074	1.36E+01	7.64E+00	4.34E+00	3.20E+01	3
KI= 824.2;	FE=076	1.67E+01	1.55E+01	3.89E+00	2.33E+01	18
KI= 828.1;	FE=078	9.08E+00				1
KI= 834.4;	FE=079	2.94E+02	1.23E+03	4.66E+02	1.58E+02	9
KI= 840.8;	FE=081	1.66E+01				1
KI= 842.7;	FE=082	1.04E+01	1.29E+00	9.13E-01	8.76E+00	2
KI= 854.4;	FE=088	6.87E+02	3.12E+02	7.77E+01	1.13E+01	18
KI= 862.2;	FE=091	2.39E+03	1.05E+03	2.66E+02	1.11E+01	18
KI= 880.0;	FE=099	1.12E+01	8.59E+00	4.63E+00	4.13E+01	3
KI= 884.5;	FE=102	1.20E+03	5.32E+02	1.38E+02	1.15E+01	18
KI= 887.4;	FE=103	8.65E+00				1
$900-n-C9-ANE;	FE=109	9.29E+00	2.00E-02	1.42E-02	1.53E-01	2
KI= 908.4;	FE=112	1.01E+01				1
KI= 910.8;	FE=113	9.14E+00				1
KI= 920.1;	FE=117	6.29E+01	3.50E+01	8.65E+00	1.38E+01	17
KI= 922.6;	FE=118	7.16E+00				1
KI= 939.4;	FE=123	7.90E+00				1
KI= 947.4;	FE=126	7.87E+01	4.14E+01	9.99E+00	1.27E+01	18
KI= 955.8;	FE=129	3.99E+02	1.73E+02	4.68E+01	1.17E+01	18
KI= 960.5;	FE=131	7.33E+00				1
KI= 970.8;	FE=136	8.92E+00				1
KI= 972.7;	FE=137	1.62E+02	7.01E+01	1.92E+01	1.19E+01	18
KI= 986.2;	FE=144	6.96E+02	3.11E+02	7.61E+01	1.09E+01	18
KI= 996.8;	FE=148	1.21E+01				1
$1000-n-C10-ANE;	FE=149	7.53E+00				1
KI=1003.9;	FE=150	1.59E+01	3.43E+00	1.25E+00	7.87E+00	5
KI=1009.0;	FE=151	2.21E+01	1.61E+01	8.09E+00	3.66E+01	3
IMPURITY #3(KI=1010.3)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	15
KI=1013.9;	FE=152	3.06E+02	1.23E+02	3.21E+01	1.05E+01	18
KI=1019.3;	FE=154	1.39E+01	1.12E+01	2.79E+00	2.00E+01	16
KI=1020.1;	FE=155	1.59E+01	1.12E+01	7.95E+00	5.00E+01	2
KI=1025.8;	FE=157	8.29E+00	5.05E-01	3.57E-01	4.30E+00	2
KI=1028.4;	FE=158	1.24E+02	4.13E+01	1.32E+01	1.06E+01	17

TABLE 8 (concluded)

KI=1036.6;	FE=162	1.23E+01	1.26E+01	4.10E+00	3.35E+01	9
KI=1044.7;	FE=166	1.25E+01	7.38E+00	3.38E+00	2.69E+01	4
KI=1046.4;	FE=167	2.98E+01	4.59E+01	1.08E+01	3.64E+01	18
KI=1049.4;	FE=168	7.64E+00				1
KI=1050.6;	FE=169	1.63E+01	1.41E+01	6.02E+00	3.70E+01	4
KI=1053.8;	FE=170	3.47E+01	2.57E+01	5.91E+00	1.70E+01	17
KI=1055.3;	FE=171	1.01E+01				1
KI=1064.6;	FE=175	7.48E+00				1
KI=1070.6;	FE=177	2.50E+01	2.76E+01	1.33E+01	5.31E+01	5
KI=1072.8;	FE=178	4.08E+01	8.25E+01	2.86E+01	7.00E+01	18
KI=1079.0;	FE=179	7.06E+01	7.78E+01	1.96E+01	2.77E+01	14
KI=1084.3;	FE=181	1.05E+01				1
$1100-n-C11-ANE;	FE=187	2.08E+01	1.14E+00	4.27E-01	2.06E+00	6
KI=1104.4;	FE=189	7.76E+00				1
KI=1108.4;	FE=191	3.23E+01	2.65E+01	6.93E+00	2.15E+01	13
KI=1112.6;	FE=193	5.39E+01	2.36E+01	5.96E+00	1.11E+01	18
KI=1123.4;	FE=198	1.23E+01				1
KI=1129.4;	FE=200	7.23E+00				1
KI=1132.7;	FE=201	1.76E+01	1.39E+01	4.75E+00	2.70E+01	7
KI=1133.7;	FE=202	1.78E+01	1.57E+01	4.71E+00	2.64E+01	7
KI=1139.7;	FE=205	4.71E+01	3.27E+01	1.37E+01	2.92E+01	5
KI=1141.0;	FE=206	5.05E+01	1.30E+01	7.09E+00	1.40E+01	3
KI=1148.3;	FE=208	2.30E+01	1.53E+01	4.69E+00	2.03E+01	12
KI=1149.8;	FE=209	2.65E+01	8.07E+00	3.57E+00	1.35E+01	4
KI=1164.2;	FE=216	9.49E+00	5.20E+00	2.93E+00	3.09E+01	3
KI=1191.5;	FE=224	8.54E+00	1.08E+00	5.56E-01	6.51E+00	3
KI=1203.4;	FE=228	1.21E+01				1
KI=1205.6;	FE=229	8.65E+00				1
KI=1207.2;	FE=230	7.89E+00	2.15E+00	1.52E+00	1.92E+01	2
KI=1214.2;	FE=232	8.96E+00				1
KI=1259.3;	FE=245	1.44E+01	1.42E+00	1.00E+00	6.99E+00	2
KI=1270.2;	FE=248	1.22E+01				1
KI=1282.7;	FE=253	1.50E+02	5.47E+01	1.39E+01	9.28E+00	18
KI=1304.4;	FE=258	1.12E+02	5.18E+01	1.32E+01	1.18E+01	12
KI=1318.0;	FE=262	7.29E+00				1
KI=1333.4;	FE=265	4.85E+01	2.99E+02	1.05E+02	2.16E+02	8
KI=1342.2;	FE=267	2.39E+02	3.22E+02	1.53E+02	6.39E+01	4
KI=1364.0;	FE=273	1.14E+01				1
KI=1388.6;	FE=277	9.43E+00				1
KI=1393.4;	FE=278	1.02E+01	7.25E+00	3.94E+00	3.86E+01	3
KI=1407.9;	FE=281	1.31E+01	1.18E+01	2.92E+00	2.24E+01	12
KI=1411.1;	FE=282	8.10E+00	4.32E-01	3.06E-01	3.77E+00	2
KI=1413.6;	FE=283	8.19E+00				1
KI=1450.5;	FE=291	9.17E+00	3.12E+00	2.20E+00	2.40E+01	2
&ANTH-d10(IS)(KI=1772)		5.15E+03	5.86E+02	1.90E+02	3.68E+00	18
IMPURITY #5(KI=1928.4)		0.00E+00				1
IMPURITY #6(KI=1946.5)		0.00E+00				1
$2118-(IMPURITY #8)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	18
TOTAL CONCENTRATION		3.64E+04	1.38E+04	3.38E+03	9.29E+00	18

TABLE 9. REP6 OUTPUT OF A DATA BASE CONTAINING 18 WATER SOLUBLE FEATURE ANALYSES OF THE REFERENCE JP-4 FUEL IN UNITS OF %REL (RELATIVE TO THE WATER EQUILIBRATED REFERENCE JP-4 FUEL)

STATISTICAL SUMMARY OF MHOS DATA BASE

CONSISTING OF 18 SAMPLES
CONCENTRATION (% REL.)

COMPOUND NAME		AVERAGE	RANGE	STANDARD DEVIATION	%REL STANDARD DEVIATION	NUMBER OF SAMPLES
IMPURITY #1(KI=	368.3)	0.00E+00	0.00E+00	0.00E+00	1.70E+38	17
KI= 377.2;	FE=001	1.03E+02	6.26E+01	1.76E+01	1.71E+01	18
KI= 388.0;	FE=002	1.03E+02	5.42E+01	1.60E+01	1.56E+01	18
$400-n-C4-ANE;	FE=003	1.02E+02	5.23E+01	1.44E+01	1.41E+01	18
KI= 457.6;	FE=004	6.91E+02	3.19E+03	1.12E+03	1.62E+02	15
$500-n-C5-ANE;	FE=005	1.30E+02	1.63E+02	4.54E+01	3.48E+01	18
CS2 SOLVENT		0.00E+00	0.00E+00	0.00E+00	1.70E+38	18
KI= 549.7;	FE=010	2.53E+02	3.79E+02	1.24E+02	4.91E+01	18
KI= 552.4;	FE=011	1.31E+02	6.34E+01	3.26E+01	2.49E+01	3
KI= 560.4;	FE=012	2.10E+02	2.66E+02	1.12E+02	5.31E+01	5
KI= 577.3;	FE=013	1.01E+02	4.26E+01	1.22E+01	1.20E+01	18
$600-n-C6-ANE;	FE=014	1.01E+02	4.14E+01	1.05E+01	1.04E+01	18
KI= 609.2;	FE=015	1.91E+02	2.88E+02	9.76E+01	5.11E+01	8
KI= 611.2;	FE=016	1.72E+02	8.25E+01	3.84E+01	2.23E+01	4
KI= 613.9;	FE=017	1.24E+02	1.53E+02	5.27E+01	4.25E+01	14
KI= 624.8;	FE=018	1.01E+02	4.44E+01	1.18E+01	1.17E+01	18
KI= 627.3;	FE=019	1.06E+02	9.53E+01	3.20E+01	3.03E+01	10
KI= 632.4;	FE=020	1.02E+02	7.09E+01	2.60E+01	2.56E+01	12
KI= 653.0;	FE=021	1.02E+02	3.89E+01	1.27E+01	1.25E+01	18
KI= 656.1;	FE=022	1.01E+02	4.17E+01	1.17E+01	1.15E+01	18
KI= 658.8;	FE=023	1.01E+02	3.96E+01	9.45E+00	9.39E+00	18
IMPURITY #2(KI=	665.8)	0.00E+00	0.00E+00	0.00E+00	1.70E+38	18
KI= 669.0;	FE=024	1.[illegible]E+02	1.47E+02	5.17E+01	3.96E+01	18
KI= 670.4;	FE=025	1.06E+02	1.04E+02	2.43E+01	2.29E+01	18
KI= 677.4;	FE=026	1.01E+02	4.28E+01	1.18E+01	1.17E+01	18
KI= 679.8;	FE=027	1.02E+02	5.23E+01	1.30E+01	1.28E+01	18
KI= 682.0;	FE=028	1.01E+02	4.26E+01	1.06E+01	1.05E+01	18
KI= 684.6;	FE=029	1.02E+02	5.66E+01	1.53E+01	1.50E+01	18
KI= 685.8;	FE=030	1.15E+02	4.55E+01	1.48E+01	1.29E+01	8
$700-n-C7-ANE;	FE=031	1.01E+02	4.41E+01	1.14E+01	1.12E+01	18
KI= 701.8;	FE=032	2.55E+02	1.54E+02	1.09E+02	4.27E+01	2
KI= 708.0;	FE=035	1.48E+02	6.35E+01	3.42E+01	2.31E+01	3
KI= 712.5;	FE=036	1.01E+02	4.07E+01	1.18E+01	1.17E+01	18
KI= 715.6;	FE=037	1.33E+02	8.72E+01	3.34E+01	2.52E+01	8
KI= 725.8;	FE=039	1.03E+02	5.83E+01	1.78E+01	1.73E+01	18
KI= 731.0;	FE=041	1.34E+02	1.20E+02	4.66E+01	3.49E+01	11
KI= 733.6;	FE=042	1.68E+02	6.25E+01	2.86E+01	1.70E+01	4
KI= 741.2;	FE=044	1.46E+02	1.19E+02	3.90E+01	2.66E+01	9
KI= 745.4;	FE=046	2.02E+02				1

TABLE 9 (cont'd)

KI= 749.9;	FE=047	1.54E+02				1
KI= 753.9;	FE=048	1.61E+02	6.83E+01	2.94E+01	1.82E+01	4
KI= 757.1;	FE=049	1.08E+02	1.22E+02	3.35E+01	3.10E+01	13
KI= 758.8;	FE=050	1.01E+02	4.42E+01	1.07E+01	1.06E+01	18
KI= 762.0;	FE=051	2.08E+02	1.36E+02	7.44E+01	3.58E+01	3
KI= 765.3;	FE=052	1.12E+02	1.71E+02	4.80E+01	4.30E+01	17
KI= 766.4;	FE=053	2.26E+02	1.26E+02	8.88E+01	3.93E+01	2
KI= 768.8;	FE=054	1.03E+02	7.88E+01	1.70E+01	1.65E+01	18
KI= 770.6;	FE=055	1.61E+02	1.15E+02	4.21E+01	2.62E+01	6
KI= 772.4;	FE=056	1.37E+02	1.43E+02	4.37E+01	3.19E+01	17
KI= 775.2;	FE=057	1.71E+02	1.19E+02	5.28E+01	3.08E+01	4
KI= 781.0;	FE=058	1.62E+02				1
KI= 784.4;	FE=060	1.47E+02	6.90E+01	3.26E+01	2.21E+01	5
KI= 786.9;	FE=062	1.14E+02	4.74E+01	1.40E+01	1.22E+01	14
KI= 795.7;	FE=065	1.66E+02	1.51E+02	6.10E+01	3.68E+01	6
$900-n-C8-ANE;	FE=066	1.33E+02	2.41E+02	7.10E+01	5.36E+01	17
KI= 808.9;	FE=070	1.51E+02				1
KI= 818.2;	FE=074	2.28E+02	1.28E+02	7.29E+01	3.20E+01	3
KI= 824.2;	FE=076	1.05E+02	9.74E+01	2.45E+01	2.33E+01	18
KI= 828.1;	FE=078	1.74E+02				1
KI= 834.4;	FE=079	8.78E+02	3.68E+03	1.39E+03	1.58E+02	9
KI= 840.8;	FE=081	1.00E+02				1
KI= 842.7;	FE=082	1.78E+02	2.20E+01	1.56E+01	8.76E+00	2
KI= 854.4;	FE=088	1.01E+02	4.60E+01	1.15E+01	1.13E+01	18
KI= 862.2;	FE=091	1.01E+02	4.42E+01	1.12E+01	1.11E+01	18
KI= 880.0;	FE=099	2.02E+02	1.55E+02	8.34E+01	4.13E+01	3
KI= 884.5;	FE=102	1.01E+02	4.50E+01	1.17E+01	1.15E+01	18
KI= 887.4;	FE=103	1.65E+02				1
$900-n-C9-ANE;	FE=109	1.73E+02	3.74E-01	2.65E-01	1.53E-01	2
KI= 908.4;	FE=112	1.88E+02				1
KI= 910.8;	FE=113	1.77E+02				1
KI= 920.1;	FE=117	1.02E+02	5.66E+01	1.40E+01	1.38E+01	17
KI= 922.6;	FE=118	1.40E+02				1
KI= 939.4;	FE=123	1.48E+02				1
KI= 947.4;	FE=126	1.02E+02	5.34E+01	1.29E+01	1.27E+01	18
KI= 955.8;	FE=129	1.01E+02	4.39E+01	1.19E+01	1.17E+01	18
KI= 960.5;	FE=131	1.42E+02				1
KI= 970.8;	FE=136	1.72E+02				1
KI= 972.7;	FE=137	1.01E+02	4.39E+01	1.20E+01	1.19E+01	18
KI= 986.2;	FE=144	1.01E+02	4.51E+01	1.11E+01	1.09E+01	18
KI= 994.8;	FE=148	2.35E+02				1
$1000-n-C10-ANE;	FE=149	1.43E+02				1
KI=1003.9;	FE=150	2.23E+02	4.80E+01	1.75E+01	7.87E+00	5
KI=1009.0;	FE=151	3.67E+02	2.67E+02	1.34E+02	3.66E+01	3
IMPURITY #3(KI=1010.3)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	15
KI=1013.9;	FE=152	1.01E+02	4.06E+01	1.06E+01	1.05E+01	18
KI=1019.3;	FE=154	1.04E+02	8.38E+01	2.09E+01	2.00E+01	16
KI=1020.1;	FE=155	2.80E+02	1.98E+02	1.40E+02	5.00E+01	2
KI=1025.8;	FE=157	1.48E+02	8.98E+00	6.35E+00	4.30E+00	2

TABLE 9 (concluded)

KI=1028.4;	FE=158	1.01E+02	3.37E+01	1.08E+01	1.06E+01	17
KI=1036.6;	FE=162	1.47E+02	1.51E+02	4.93E+01	3.35E+01	9
KI=1044.7;	FE=166	1.43E+02	8.40E+01	3.84E+01	2.69E+01	4
KI=1046.4;	FE=167	1.11E+02	1.72E+02	4.06E+01	3.64E+01	18
KI=1049.4;	FE=168	1.46E+02				1
KI=1050.6;	FE=169	2.72E+02	2.36E+02	1.01E+02	3.70E+01	4
KI=1053.8;	FE=170	1.03E+02	7.65E+01	1.76E+01	1.70E+01	17
KI=1055.3;	FE=171	1.94E+02				1
KI=1064.6;	FE=175	1.47E+02				1
KI=1070.6;	FE=177	3.26E+02	3.60E+02	1.73E+02	5.31E+01	5
KI=1072.8;	FE=178	1.60E+02	3.23E+02	1.12E+02	7.00E+01	18
KI=1079.0;	FE=179	4.06E+02	4.47E+02	1.12E+02	2.77E+01	14
KI=1084.3;	FE=181	2.03E+02				1
$1100-n-C11-ANE;	FE=187	1.00E+02	5.51E+00	2.06E+00	2.06E+00	6
KI=1104.4;	FE=189	1.44E+02				1
KI=1108.4;	FE=191	2.15E+02	1.76E+02	4.61E+01	2.15E+01	13
KI=1112.6;	FE=193	1.01E+02	4.42E+01	1.12E+01	1.11E+01	18
KI=1123.4;	FE=198	2.33E+02				1
KI=1129.4;	FE=200	1.41E+02				1
KI=1132.7;	FE=201	2.16E+02	1.71E+02	5.84E+01	2.70E+01	7
KI=1133.7;	FE=202	1.47E+02	1.30E+02	3.89E+01	2.64E+01	7
KI=1139.7;	FE=205	1.15E+02	7.97E+01	3.35E+01	2.92E+01	5
KI=1141.0;	FE=206	7.26E+02	1.87E+02	1.02E+02	1.40E+01	3
KI=1148.3;	FE=208	1.08E+02	7.17E+01	2.20E+01	2.03E+01	12
KI=1149.8;	FE=209	2.21E+02	6.72E+01	2.97E+01	1.35E+01	4
KI=1164.2;	FE=216	1.68E+02	9.20E+01	5.19E+01	3.09E+01	3
KI=1191.5;	FE=224	1.56E+02	1.98E+01	1.02E+01	6.51E+00	3
KI=1203.4;	FE=228	2.31E+02				1
KI=1205.6;	FE=229	1.67E+02				1
KI=1207.2;	FE=230	1.48E+02	4.01E+01	2.84E+01	1.92E+01	2
KI=1214.2;	FE=232	1.74E+02				1
KI=1259.3;	FE=245	2.40E+02	2.38E+01	1.68E+01	6.99E+00	2
KI=1270.2;	FE=248	2.32E+02				1
KI=1282.7;	FE=253	1.01E+02	3.67E+01	9.35E+00	9.28E+00	18
KI=1304.4;	FE=258	6.15E+02	2.84E+02	7.23E+01	1.18E+01	12
KI=1318.0;	FE=262	1.39E+02				1
KI=1333.4;	FE=265	5.96E+02	3.68E+03	1.29E+03	2.16E+02	8
KI=1342.2;	FE=267	1.84E+02	2.48E+02	1.18E+02	6.39E+01	4
KI=1364.0;	FE=273	2.20E+02				1
KI=1388.6;	FE=277	1.77E+02				1
KI=1393.4;	FE=278	1.84E+02	1.30E+02	7.09E+01	3.86E+01	3
KI=1407.9;	FE=281	1.42E+02	1.29E+02	3.18E+01	2.24E+01	12
KI=1411.1;	FE=282	1.51E+02	8.07E+00	5.70E+00	3.77E+00	2
KI=1413.6;	FE=283	1.59E+02				1
KI=1450.5;	FE=291	1.73E+02	5.87E+01	4.15E+01	2.40E+01	2
&ANTH-d10(IS)(KI=1772)		1.03E+05	1.17E+04	3.79E+03	3.68E+00	18
IMPURITY #5(KI=1928.4)		0.00E+00				1
IMPURITY #6(KI=1946.5)		0.00E+00				1
$2118-(IMPURITY #8)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	18
TOTAL CONCENTRATION		9.56E+03	1.03E+04	2.31E+03	2.41E+01	18

TABLE 10. REP7 OUTPUT OF A DATA BASE CONTAINING 18 WATER SOLUBLE FEATURE ANALYSES OF THE JP-4 FUEL IN UNITS OF KI (KOVATS INDEX)

STATISTICAL SUMMARY OF MH08 DATA BASE

CONSISTING OF 18 SAMPLES
RETENTION INDEX (KI)

COMPOUND NAME		AVERAGE	RANGE	STANDARD DEVIATION	%REL STANDARD DEVIATION	NUMBER OF SAMPLES
IMPURITY #1(KI=	368.3)	369.00	0.00E+00	0.00E+00	0.00E+00	17
KI= 377.2;	FE=001	375.80	4.52E+00	9.77E-01	2.60E-01	18
KI= 388.0;	FE=002	388.53	3.89E+00	1.03E+00	2.66E-01	18
$400-n-C4-ANE;	FE=003	400.00	0.00E+00	0.00E+00	0.00E+00	18
KI= 457.6;	FE=004	447.16	4.29E+00	1.31E+00	2.92E-01	15
$500-n-C5-ANE;	FE=005	500.00	0.00E+00	0.00E+00	0.00E+00	18
CS2 SOLVENT		512.97	1.05E+00	2.43E-01	4.74E-02	18
KI= 549.7;	FE=010	567.41	3.63E+00	1.23E+00	2.18E-01	18
KI= 552.4;	FE=011	569.74	1.00E+00	5.01E-01	8.80E-02	3
KI= 560.4;	FE=012	570.75	8.02E-01	3.17E-01	5.56E-02	5
KI= 577.3;	FE=013	581.48	1.74E+00	6.01E-01	1.03E-01	18
$600-n-C6-ANE;	FE=014	600.00	0.00E+00	0.00E+00	0.00E+00	18
KI= 609.2;	FE=015	609.42	1.80E-01	7.56E-02	1.24E-02	8
KI= 611.2;	FE=016	611.05	2.44E-01	1.02E-01	1.67E-02	4
KI= 613.9;	FE=017	613.64	1.03E+00	2.78E-01	4.52E-02	14
KI= 624.8;	FE=018	624.77	2.92E-01	8.74E-02	1.40E-02	18
KI= 627.3;	FE=019	627.01	3.93E-01	1.16E-01	1.85E-02	10
KI= 632.4;	FE=020	631.83	4.56E-01	1.62E-01	2.57E-02	12
KI= 653.0;	FE=021	652.61	2.94E-01	8.40E-02	1.29E-02	18
KI= 656.1;	FE=022	656.32	1.11E-01	3.08E-02	4.69E-03	18
KI= 658.8;	FE=023	660.00	0.00E+00	0.00E+00	0.00E+00	18
IMPURITY #2(KI=	665.8)	666.56	3.64E-01	9.34E-02	1.40E-02	18
KI= 669.0;	FE=024	668.96	2.78E-01	6.86E-02	1.03E-02	18
KI= 670.4;	FE=025	670.06	3.51E-01	9.59E-02	1.43E-02	18
KI= 677.4;	FE=026	677.30	2.56E-01	6.62E-02	9.77E-03	18
KI= 679.8;	FE=027	680.09	1.93E-01	5.95E-02	8.75E-03	18
KI= 682.0;	FE=028	682.43	2.35E-01	5.79E-02	8.49E-03	18
KI= 684.6;	FE=029	685.02	1.83E-01	4.93E-02	7.20E-03	18
KI= 685.8;	FE=030	686.03	3.40E-01	1.07E-01	1.56E-02	8
$700-n-C7-ANE;	FE=031	700.00	0.00E+00	0.00E+00	0.00E+00	18
KI= 701.8;	FE=032	701.69	6.24E-02	4.41E-02	6.29E-03	2
KI= 708.0;	FE=035	708.47	5.36E-01	2.86E-01	4.03E-02	3
KI= 712.5;	FE=036	712.95	1.71E-01	5.06E-02	7.10E-03	18
KI= 715.6;	FE=037	716.03	2.93E-01	8.67E-02	1.21E-02	8
KI= 725.8;	FE=039	726.33	4.05E-01	1.09E-01	1.50E-02	18
KI= 731.0;	FE=041	730.89	5.31E-01	1.54E-01	2.11E-02	11
KI= 733.6;	FE=042	733.75	5.23E-01	2.43E-01	3.31E-02	4
KI= 741.2;	FE=044	741.41	3.79E-01	1.28E-01	1.73E-02	9
KI= 745.4;	FE=046	745.53				1
KI= 749.9;	FE=047	750.41				

TABLE 10 (cont'd)

KI= 753.9;	FE=048	754.05	2.55E-01	1.07E-01	1.41E-02	4
KI= 757.1;	FE=049	756.97	2.38E-01	6.33E-02	8.36E-03	13
KI= 758.8;	FE=050	760.00	0.00E+00	0.00E+00	0.00E+00	18
KI= 762.0;	FE=051	762.29	3.61E-01	1.82E-01	2.39E-02	3
KI= 765.3;	FE=052	764.76	2.07E-01	5.60E-02	7.32E-03	17
KI= 766.4;	FE=053	765.90	1.42E-01	1.01E-01	1.31E-02	2
KI= 768.8;	FE=054	769.01	2.09E-01	5.75E-02	7.48E-03	18
KI= 770.6;	FE=055	770.85	4.71E-01	1.86E-01	2.42E-02	6
KI= 772.4;	FE=056	772.01	3.37E-01	8.78E-02	1.14E-02	17
KI= 775.2;	FE=057	775.59	3.99E-01	1.78E-01	2.29E-02	4
KI= 781.0;	FE=058	781.76				1
KI= 784.4;	FE=060	784.81	5.40E-01	2.11E-01	2.69E-02	5
KI= 786.9;	FE=062	787.46	4.34E-01	1.09E-01	1.38E-02	16
KI= 795.7;	FE=065	796.57	4.18E-01	1.68E-01	2.11E-02	6
$800-n-C8-ANE;	FE=066	800.00	0.00E+00	0.00E+00	0.00E+00	17
KI= 808.9;	FE=070	808.49				1
KI= 818.2;	FE=074	819.06	4.42E-01	2.36E-01	2.88E-02	3
KI= 824.2;	FE=076	824.71	3.03E-01	8.87E-02	1.08E-02	18
KI= 828.1;	FE=078	828.33				1
KI= 834.4;	FE=079	834.27	5.09E-01	1.39E-01	1.66E-02	9
KI= 840.8;	FE=081	840.80				1
KI= 842.7;	FE=082	843.00	1.67E-01	1.18E-01	1.40E-02	2
KI= 854.4;	FE=088	855.27	1.26E-01	2.49E-02	2.91E-03	18
KI= 862.2;	FE=091	863.00	0.00E+00	0.00E+00	0.00E+00	18
KI= 880.0;	FE=099	880.34	5.15E-01	2.82E-01	3.21E-02	3
KI= 884.5;	FE=102	886.01	2.39E-01	6.37E-02	7.19E-03	18
KI= 887.4;	FE=103	887.61				1
$900-n-C9-ANE;	FE=109	900.00	0.00E+00	0.00E+00	0.00E+00	2
KI= 908.4;	FE=112	909.57				1
KI= 910.8;	FE=113	910.33				1
KI= 920.1;	FE=117	919.98	1.85E-01	5.59E-02	6.08E-03	17
KI= 922.6;	FE=118	923.33				1
KI= 939.4;	FE=123	939.22				1
KI= 947.4;	FE=126	948.84	1.96E-01	6.17E-02	6.50E-03	18
KI= 955.8;	FE=129	957.09	1.75E-01	4.40E-02	4.60E-03	18
KI= 960.5;	FE=131	959.94				1
KI= 970.8;	FE=136	970.82				1
KI= 972.7;	FE=137	973.97	1.29E-01	3.38E-02	3.47E-03	18
KI= 986.2;	FE=144	987.00	0.00E+00	0.00E+00	0.00E+00	18
KI= 996.8;	FE=148	996.57				1
$1000-n-C10-ANE;	FE=149	1000.41				1
KI=1003.9;	FE=150	1005.26	6.19E-01	2.26E-01	2.25E-02	5
KI=1009.0;	FE=151	1009.65	1.18E-01	6.55E-02	6.48E-03	3
IMPURITY #3(KI=1010.3)		1009.89	4.23E-01	1.15E-01	1.13E-02	15
KI=1013.9;	FE=152	1015.56	4.43E-01	9.24E-02	9.10E-03	18
KI=1019.3;	FE=154	1018.67	5.75E-01	1.29E-01	1.26E-02	16
KI=1020.1;	FE=155	1020.65	2.36E-02	1.67E-02	1.63E-03	2
KI=1025.8;	FE=157	1026.02	5.39E-01	3.81E-01	3.72E-02	2
KI=1028.4;	FE=158	1027.72	6.15E-01	1.38E-01	1.34E-02	17

TABLE 10 (concluded)

KI=1036.6;	FE=162	1036.61	4.01E-01	1.30E-01	1.26E-02	9
KI=1044.7;	FE=166	1046.09	1.63E-01	7.51E-02	7.18E-03	4
KI=1046.4;	FE=167	1047.62	6.04E-01	1.33E-01	1.27E-02	18
KI=1049.4;	FE=168	1050.64				1
KI=1050.6;	FE=169	1051.74	5.76E-01	2.61E-01	2.48E-02	4
KI=1053.8;	FE=170	1055.00	0.00E+00	0.00E+00	0.00E+00	17
KI=1055.3;	FE=171	1057.11				1
KI=1064.6;	FE=175	1070.16				1
KI=1070.6;	FE=177	1073.07	3.28E-01	1.34E-01	1.25E-02	5
KI=1072.8;	FE=178	1074.23	5.34E-01	1.67E-01	1.55E-02	18
KI=1079.0;	FE=179	1080.63	6.62E-01	1.60E-01	1.48E-02	14
KI=1084.3;	FE=181	1086.69				1
$1100-n-C11-ANE;	FE=187	1100.16	5.10E-01	2.47E-01	2.25E-02	6
KI=1104.4;	FE=189	1104.69				1
KI=1108.4;	FE=191	1109.92	1.91E-01	5.79E-02	5.21E-03	13
KI=1112.6;	FE=193	1114.00	0.00E+00	0.00E+00	0.00E+00	18
KI=1123.4;	FE=198	1123.23				1
KI=1129.4;	FE=200	1129.76				1
KI=1132.7;	FE=201	1132.41	3.69E-01	1.26E-01	1.11E-02	7
KI=1133.7;	FE=202	1132.61	7.20E-02	2.71E-02	2.40E-03	7
KI=1139.7;	FE=205	1143.36	1.04E-01	3.95E-02	3.46E-03	5
KI=1141.0;	FE=206	1146.40	5.49E-02	2.92E-02	2.54E-03	3
KI=1148.3;	FE=208	1154.87	4.02E-01	1.14E-01	9.86E-03	12
KI=1149.8;	FE=209	1155.03	5.44E-02	2.40E-02	2.08E-03	4
KI=1164.2;	FE=216	1170.75	3.51E-01	1.87E-01	1.59E-02	3
KI=1191.5;	FE=224	1193.86	2.16E-01	1.20E-01	1.01E-02	3
KI=1203.4;	FE=228	1203.24				1
KI=1205.6;	FE=229	1206.53				1
KI=1207.2;	FE=230	1207.20	1.24E-01	8.75E-02	7.25E-03	2
KI=1214.2;	FE=232	1214.48				1
KI=1259.3;	FE=245	1259.03	3.22E-01	2.28E-01	1.81E-02	2
KI=1270.2;	FE=248	1269.67				1
KI=1282.7;	FE=253	1285.00	0.00E+00	0.00E+00	0.00E+00	18
KI=1304.4;	FE=258	1301.88	2.42E-01	7.24E-02	5.56E-03	12
KI=1318.0;	FE=262	1318.52				1
KI=1333.4;	FE=265	1334.87	2.73E-01	8.47E-02	6.34E-03	8
KI=1342.2;	FE=267	1342.86	8.11E-02	3.52E-02	2.62E-03	4
KI=1364.0;	FE=273	1364.11				1
KI=1388.6;	FE=277	1389.26				1
KI=1393.4;	FE=278	1396.41	9.30E-01	4.89E-01	3.51E-02	3
KI=1407.9;	FE=281	1410.00	0.00E+00	0.00E+00	0.00E+00	12
KI=1411.1;	FE=282	1413.13	4.88E-04	3.45E-04	2.44E-05	2
KI=1413.6;	FE=283	1414.01				1
KI=1450.5;	FE=291	1449.81	2.58E-01	1.82E-01	1.26E-02	2
$ANTH-d10(IS)(KI=1772)		1786.68	2.68E+01	7.17E+00	4.01E-01	18
IMPURITY #5(KI=1928.4)		1928.55				1
IMPURITY #6(KI=1946.5)		1946.37				1
$2118-(IMPURITY #8)		2118.00	0.00E+00	0.00E+00	0.00E+00	18
TOTAL CONCENTRATION		5000.00	0.00E+00	0.00E+00	0.00E+00	18

TABLE 11. REP6 OF A DATA BASE CONTAINING 106 WATER SOLUBLE FEATURE ANALYSES OF 53 PETROLEUM-DERIVED JP-4 FUELS IN UNITS OF µG/L

STATISTICAL SUMMARY OF MH09 DATA BASE

CONSISTING OF 106 SAMPLES
CONCENTRATION (ug/L)

COMPOUND NAME		AVERAGE	RANGE	STANDARD DEVIATION	%REL STANDARD DEVIATION	NUMBER OF SAMPLES
IMPURITY #1(KI= 368.3)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	105
KI= 377.2;	FE=001	6.17E+01	2.48E+02	5.86E+01	9.49E+01	64
KI= 388.0;	FE=002	8.43E+01	2.98E+02	7.38E+01	8.75E+01	76
$400-n-C4-ANE;	FE=003	3.66E+02	1.65E+03	3.38E+02	9.24E+01	95
KI= 457.6;	FE=004	4.29E+02	1.08E+03	2.86E+02	6.66E+01	97
$500-n-C5-ANE;	FE=005	4.97E+02	1.34E+03	3.27E+02	6.58E+01	106
CS2 SOLVENT		0.00E+00	0.00E+00	0.00E+00	1.70E+38	106
KI= 549.7;	FE=010	3.24E+02	7.78E+02	2.33E+02	7.19E+01	64
KI= 552.4;	FE=011	1.91E+02	9.63E+02	1.99E+02	1.04E+02	81
KI= 560.4;	FE=012	3.35E+02	6.75E+02	2.06E+02	6.16E+01	64
KI= 577.3;	FE=013	2.91E+02	8.97E+02	1.87E+02	6.43E+01	105
$600-n-C6-ANE;	FE=014	4.55E+02	8.84E+02	2.07E+02	4.55E+01	106
KI= 609.2;	FE=015	3.25E+01	7.03E+01	2.55E+01	7.83E+01	11
KI= 611.2;	FE=016	2.67E+01	4.26E+01	1.66E+01	6.21E+01	8
KI= 613.9;	FE=017	6.25E+01	1.53E+02	4.56E+01	7.30E+01	26
KI= 624.8;	FE=018	8.51E+02	2.18E+03	4.70E+02	5.52E+01	106
KI= 627.3;	FE=019	3.82E+01	9.48E+01	2.89E+01	7.55E+01	25
KI= 632.4;	FE=020	2.14E+01	3.72E+01	8.36E+00	3.90E+01	53
KI= 653.0;	FE=021	4.63E+01	1.74E+02	3.62E+01	7.82E+01	51
KI= 656.1;	FE=022	1.02E+03	2.75E+03	7.70E+02	7.55E+01	106
KI= 658.8;	FE=023	1.58E+04	5.42E+04	1.44E+04	9.10E+01	106
IMPURITY #2(KI= 665.8)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	104
KI= 669.0;	FE=024	4.55E+01	1.10E+02	2.46E+01	5.40E+01	71
KI= 670.4;	FE=025	1.12E+02	2.47E+02	5.26E+01	4.69E+01	103
KI= 677.4;	FE=026	9.27E+01	1.87E+02	4.66E+01	5.03E+01	106
KI= 679.8;	FE=027	7.74E+01	2.27E+02	4.73E+01	6.11E+01	102
KI= 682.0;	FE=028	7.25E+01	2.12E+02	4.60E+01	6.34E+01	106
KI= 684.6;	FE=029	1.33E+02	4.05E+02	9.33E+01	7.00E+01	105
KI= 685.8;	FE=030	1.71E+01	1.91E+01	5.47E+00	3.20E+01	22
$700-n-C7-ANE;	FE=031	1.30E+02	2.97E+02	5.83E+01	4.48E+01	106
KI= 701.8;	FE=032	1.17E+01	9.04E+00	3.65E+00	3.12E+01	6
KI= 708.0;	FE=035	1.29E+01	9.19E+00	4.66E+00	3.62E+01	3
KI= 712.5;	FE=036	6.02E+02	1.46E+03	3.96E+02	6.57E+01	106
KI= 715.6;	FE=037	2.15E+01	5.09E+01	8.70E+00	4.05E+01	50
KI= 719.1;	FE=038	1.18E+01				1
KI= 725.8;	FE=039	5.15E+01	1.18E+02	2.69E+01	5.23E+01	92
KI= 731.0;	FE=041	1.18E+01	1.13E+01	5.45E+00	4.60E+01	4
KI= 733.6;	FE=042	1.99E+01	5.20E+01	1.11E+01	5.57E+01	40
KI= 741.2;	FE=044	2.57E+01	8.29E+01	1.69E+01	6.60E+01	49
KI= 745.4;	FE=046	1.31E+01				1

TABLE 11 (cont'd)

KI= 749.9;	FE=047	1.44E+01	1.76E+01	6.20E+00	4.31E+01	7
KI= 753.9;	FE=048	1.47E+01	2.38E+01	6.09E+00	4.15E+01	20
KI= 757.1;	FE=049	1.27E+01	1.22E+01	4.37E+00	3.43E+01	9
KI= 758.8;	FE=050	1.60E+04	4.23E+04	1.03E+04	6.43E+01	106
KI= 762.0;	FE=051	2.81E+01	4.36E+01	1.16E+01	4.12E+01	19
KI= 765.3;	FE=052	2.34E+01	4.02E+01	1.05E+01	4.50E+01	51
KI= 766.4;	FE=053	1.51E+01	1.62E+00	8.16E-01	5.41E+00	3
KI= 768.8;	FE=054	3.55E+01	9.76E+01	1.98E+01	5.57E+01	76
KI= 770.6;	FE=055	2.47E+01	8.02E+01	1.55E+01	6.28E+01	44
KI= 772.4;	FE=056	2.23E+01	4.71E+01	1.30E+01	5.83E+01	19
KI= 775.2;	FE=057	1.80E+01	2.57E+01	6.22E+00	3.45E+01	44
KI= 781.0;	FE=058	1.29E+01	1.28E+01	3.94E+00	3.05E+01	7
KI= 783.2;	FE=059	1.32E+01	7.70E+00	5.45E+00	4.12E+01	2
KI= 784.4;	FE=060	3.06E+01	7.92E+01	2.01E+01	6.57E+01	23
KI= 785.4;	FE=061	2.30E+01	2.76E+01	9.66E+00	4.19E+01	9
KI= 786.9;	FE=062	2.82E+01	8.36E+01	1.54E+01	5.45E+01	72
KI= 791.1;	FE=063	9.90E+00				1
KI= 794.4;	FE=064	3.43E+01				1
KI= 795.7;	FE=065	2.17E+01	3.83E+01	8.56E+00	3.94E+01	38
$800-n-C8-ANE;	FE=066	2.63E+01	6.67E+01	1.56E+01	5.94E+01	57
KI= 807.1;	FE=069	8.79E+00				1
KI= 813.6;	FE=072	1.55E+01				1
KI= 818.2;	FE=074	1.47E+01	2.08E+01	5.65E+00	3.85E+01	17
KI= 824.2;	FE=076	4.13E+01	1.14E+02	2.41E+01	5.83E+01	79
KI= 828.1;	FE=078	2.19E+01	5.83E+01	1.47E+01	6.71E+01	33
KI= 834.4;	FE=079	4.66E+02	1.56E+03	4.31E+02	9.24E+01	70
KI= 837.0;	FE=080	4.56E+01				1
KI= 840.8;	FE=081	3.08E+01	6.20E+01	1.84E+01	5.99E+01	28
KI= 842.7;	FE=082	1.38E+01	1.16E+01	5.20E+00	3.76E+01	4
KI= 854.4;	FE=088	1.23E+03	4.55E+03	8.73E+02	7.13E+01	106
KI= 856.1;	FE=089	1.39E+01	3.42E+00	2.42E+00	1.74E+01	2
KI= 862.2;	FE=091	4.11E+03	1.82E+04	3.21E+03	7.81E+01	106
KI= 867.4;	FE=094	2.00E+01	2.82E+01	1.20E+01	6.02E+01	5
KI= 869.5;	FE=095	1.30E+01				1
KI= 871.2;	FE=096	1.42E+01	4.93E+00	1.78E+00	1.25E+01	6
KI= 880.0;	FE=099	1.74E+01	2.81E+01	7.50E+00	4.31E+01	18
KI= 881.6;	FE=100	1.36E+01				1
KI= 884.5;	FE=102	1.80E+03	6.67E+03	1.25E+03	6.96E+01	106
KI= 887.4;	FE=103	1.02E+01				1
KI= 890.9;	FE=104	2.72E+01				1
KI= 894.6;	FE=106	1.47E+01	1.44E+01	7.51E+00	5.10E+01	3
$900-n-C9-ANE;	FE=109	1.29E+01	1.11E+01	3.73E+00	2.88E+01	9
KI= 908.4;	FE=112	1.44E+01	2.48E+01	6.95E+00	4.81E+01	11
KI= 910.8;	FE=113	8.88E+00				1
KI= 913.9;	FE=114	1.04E+01				1
KI= 917.7;	FE=116	2.12E+01	2.38E+01	1.18E+01	5.57E+01	4
KI= 920.1;	FE=117	7.55E+01	1.91E+02	4.39E+01	5.81E+01	100
KI= 933.5;	FE=122	1.52E+01	2.42E+00	1.31E+00	8.60E+00	3
KI= 939.4;	FE=123	1.04E+01	1.99E-01	1.40E-01	1.35E+00	2

TABLE 11 (cont'd)

KI= 941.0;	FE=124	1.41E+01				1
KI= 945.3;	FE=125	1.79E+01				1
KI= 947.4;	FE=126	9.51E+01	2.49E+02	5.65E+01	5.94E+01	105
KI= 952.0;	FE=127	1.56E+01				1
KI= 955.8;	FE=129	4.59E+02	1.40E+03	2.79E+02	6.07E+01	105
KI= 956.8;	FE=130	1.53E+02	3.26E+02	1.45E+02	9.48E+01	4
KI= 962.1;	FE=132	1.57E+01				1
KI= 964.7;	FE=133	2.00E+02	5.48E+02	1.18E+02	5.89E+01	92
KI= 967.4;	FE=135	7.67E+00				1
KI= 972.7;	FE=137	1.81E+02	8.70E+02	1.45E+02	8.02E+01	106
KI= 974.9;	FE=138	1.81E+02				1
KI= 979.2;	FE=140	9.84E+00	3.86E-01	2.73E-01	2.77E+00	2
KI= 986.2;	FE=144	6.33E+02	1.60E+03	3.53E+02	5.57E+01	106
KI= 989.0;	FE=145	4.72E+02				1
KI= 993.5;	FE=146	1.46E+01				1
KI= 995.3;	FE=147	1.26E+01				1
$1000-n-C10-ANE;	FE=149	1.17E+01				1
KI=1003.9;	FE=150	2.08E+01	3.99E+01	7.87E+00	3.78E+01	47
KI=1009.0;	FE=151	2.06E+01	1.17E+01	5.40E+00	2.62E+01	5
IMPURITY #3(KI=1010.3)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	92
KI=1013.9;	FE=152	3.34E+02	7.44E+02	1.71E+02	5.11E+01	92
KI=1017.0;	FE=153	1.91E+02	3.47E+02	1.08E+02	5.64E+01	13
KI=1019.3;	FE=154	2.02E+01	4.96E+01	1.14E+01	5.67E+01	58
KI=1020.1;	FE=155	1.80E+01	2.24E+01	6.82E+00	3.79E+01	16
KI=1025.8;	FE=157	1.07E+01	3.27E+00	2.31E+00	2.17E+01	2
KI=1028.4;	FE=158	1.05E+02	4.79E+02	9.65E+01	9.23E+01	87
KI=1031.6;	FE=159	1.84E+01	9.26E+00	6.55E+00	3.57E+01	2
KI=1034.6;	FE=161	1.61E+01	1.71E+01	7.59E+00	4.71E+01	4
KI=1036.6;	FE=162	2.00E+01	1.71E+01	5.24E+00	2.62E+01	7
KI=1040.6;	FE=164	2.49E+01				1
KI=1044.7;	FE=166	2.69E+01	5.65E+01	1.70E+01	6.31E+01	22
KI=1046.4;	FE=167	2.87E+01	7.96E+01	1.72E+01	5.99E+01	71
KI=1049.4;	FE=168	1.85E+01	2.60E+01	8.02E+00	4.33E+01	7
KI=1050.6;	FE=169	2.99E+01	6.51E+01	1.62E+01	5.44E+01	22
KI=1053.8;	FE=170	3.06E+01	8.48E+01	1.91E+01	6.23E+01	78
KI=1055.3;	FE=171	3.49E+01	4.37E+01	1.84E+01	5.27E+01	6
KI=1060.8;	FE=174	1.46E+01				1
KI=1064.6;	FE=175	1.50E+01				1
KI=1070.6;	FE=177	4.93E+01	1.42E+02	3.54E+01	7.18E+01	29
KI=1072.8;	FE=178	4.47E+01	1.44E+02	3.07E+01	6.86E+01	73
KI=1079.0;	FE=179	7.08E+01	1.71E+02	4.30E+01	6.08E+01	80
KI=1084.3;	FE=181	1.60E+01	1.88E+01	4.11E+00	2.56E+01	21
KI=1087.2;	FE=182	8.58E+00				1
KI=1090.8;	FE=184	1.12E+01	2.67E+00	1.89E+00	1.69E+01	2
$1100-n-C11-ANE;	FE=187	2.96E+01	8.24E+01	1.73E+01	5.85E+01	57
KI=1104.4;	FE=189	1.53E+01	2.05E+01	6.81E+00	4.45E+01	10
KI=1106.6;	FE=190	2.34E+01	3.83E+01	1.63E+01	6.98E+01	4
KI=1108.4;	FE=191	3.01E+01	1.11E+02	2.12E+01	7.05E+01	54
KI=1112.6;	FE=193	4.27E+01	1.81E+02	3.28E+01	7.67E+01	90

TABLE 11 (cont'd)

KI=1123.4;	FE=198	9.81E+00				1
KI=1127.0;	FE=199	1.43E+01				1
KI=1132.7;	FE=201	3.75E+01	8.69E+01	2.18E+01	5.81E+01	30
KI=1133.7;	FE=202	1.40E+01	1.08E+01	4.42E+00	3.16E+01	6
KI=1137.1;	FE=204	1.72E+01	9.76E+00	4.42E+00	2.56E+01	4
KI=1139.7;	FE=205	5.61E+01	1.54E+02	3.68E+01	6.56E+01	60
KI=1141.0;	FE=206	5.29E+01	2.89E+02	4.67E+01	8.84E+01	71
KI=1144.0;	FE=207	3.90E+01	9.23E+01	3.20E+01	8.22E+01	9
KI=1148.3;	FE=208	5.02E+01	1.43E+02	3.62E+01	7.23E+01	58
KI=1149.8;	FE=209	3.07E+01	2.44E+01	9.26E+00	3.02E+01	7
KI=1155.0;	FE=211	3.86E+01	1.00E+01	7.08E+00	1.83E+01	2
KI=1156.1;	FE=212	3.15E+01	2.25E+01	1.19E+01	3.77E+01	3
KI=1159.8;	FE=214	1.00E+02	1.55E+02	6.29E+01	6.27E+01	29
KI=1161.8;	FE=215	7.82E+01	1.35E+02	9.56E+01	1.22E+02	2
KI=1164.2;	FE=216	7.76E+01	1.39E+02	6.75E+01	8.69E+01	12
KI=1170.4;	FE=217	3.19E+02	1.02E+03	2.43E+02	7.61E+01	57
KI=1171.4;	FE=218	1.17E+02	1.67E+01	9.59E+00	8.22E+00	3
KI=1179.7;	FE=220	1.41E+01	1.35E+01	5.58E+00	3.94E+01	5
KI=1181.4;	FE=221	1.67E+01	1.35E+01	4.39E+00	2.63E+01	9
KI=1185.3;	FE=222	1.33E+02	2.81E+02	1.08E+02	8.11E+01	12
KI=1191.5;	FE=224	1.64E+01	1.62E+01	6.20E+00	3.78E+01	7
KI=1195.4;	FE=226	8.52E+00				1
$1200-n-C12-ANE;	FE=227	3.31E+01	7.53E+01	1.85E+01	5.60E+01	18
KI=1203.4;	FE=228	1.96E+01	3.29E+01	1.22E+01	6.22E+01	9
KI=1205.6;	FE=229	9.26E+00	3.06E+00	1.57E+00	1.70E+01	3
KI=1210.9;	FE=231	1.10E+01	4.30E+00	1.78E+00	1.61E+01	5
KI=1218.2;	FE=233	1.04E+01	1.53E+00	1.08E+00	1.04E+01	2
KI=1220.0;	FE=234	2.03E+01	3.93E+01	1.88E+01	9.29E+01	4
KI=1221.7;	FE=235	2.67E+01	8.75E+00	6.19E+00	2.32E+01	2
KI=1224.3;	FE=236	1.38E+01				1
KI=1227.8;	FE=237	1.88E+01	4.03E+00	2.85E+00	1.51E+01	2
KI=1233.9;	FE=238	9.53E+00	4.40E+00	3.11E+00	3.26E+01	2
KI=1238.6;	FE=239	1.42E+01	4.07E+00	2.03E+00	1.43E+01	3
KI=1241.7;	FE=240	1.30E+01	5.21E+00	2.98E+00	2.30E+01	3
KI=1248.5;	FE=242	8.56E+00				1
KI=1259.3;	FE=245	1.46E+01	1.53E+01	3.86E+00	2.65E+01	11
KI=1267.6;	FE=247	1.43E+01				1
KI=1273.1;	FE=249	1.67E+01				1
KI=1276.1;	FE=250	1.27E+01	2.55E+00	1.47E+00	1.15E+01	3
KI=1282.7;	FE=253	8.97E+01	2.53E+02	6.05E+01	6.75E+01	93
KI=1288.3;	FE=255	1.14E+01	2.27E+00	1.61E+00	1.41E+01	2
$1300-n-C13-ANE;	FE=257	7.49E+01	1.68E+02	4.47E+01	5.97E+01	39
KI=1304.4;	FE=258	7.88E+01	1.68E+02	4.96E+01	6.30E+01	12
KI=1311.5;	FE=260	1.36E+01				1
KI=1318.0;	FE=262	8.28E+00				1
KI=1333.4;	FE=265	3.11E+02	5.29E+01	3.74E+01	1.20E+01	2
KI=1338.4;	FE=266	2.23E+02	3.25E+02	1.32E+02	5.91E+01	32
KI=1342.2;	FE=267	2.34E+02	3.27E+02	1.30E+02	5.58E+01	24
KI=1351.1;	FE=270	1.05E+01				1

TABLE 11 (concluded)

KI=1358.9;	FE=272	9.04E+00				1
KI=1376.7;	FE=275	1.52E+01				1
KI=1393.4;	FE=278	9.33E+00	1.29E+00	9.11E-01	9.76E+00	2
KI=1407.9;	FE=281	1.36E+01	1.00E+01	3.02E+00	2.23E+01	16
KI=1411.1;	FE=282	1.32E+01				1
KI=1413.6;	FE=283	1.32E+01				1
KI=1434.1;	FE=288	7.30E+00				1
KI=1446.1;	FE=290	1.92E+01				1
KI=1453.4;	FE=292	1.35E+01				1
$1500-n-C15-ANE;	FE=296	9.62E+00	4.62E+00	3.27E+00	3.40E+01	2
&ANTH-d10(IS)(KI=1772)		5.35E+03	5.86E+02	2.92E+02	5.47E+00	106
IMPURITY #6(KI=1946.5)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
IMPURITY #7(KI=1952.8)		0.00E+00				1
$2118-(IMPURITY #8)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	106
TOTAL CONCENTRATION		4.96E+04	9.27E+04	2.43E+04	4.90E+01	106

TABLE 12. REP6 OUTPUT OF A DATA BASE CONTAINING 106 WATER SOLUBLE FEATURE ANALYSES OF 53 PETROLEUM-DERIVED JP-4 FUELS IN UNITS OF %REL (RELATIVE TO THE WATER EQUILIBRATED REFERENCE JP-4 FUEL)

STATISTICAL SUMMARY OF MH10 DATA BASE

CONSISTING OF 106 SAMPLES
CONCENTRATION (% REL.)

COMPOUND NAME		AVERAGE	RANGE	STANDARD DEVIATION	%REL STANDARD DEVIATION	NUMBER OF SAMPLES
IMPURITY #1(KI= 368.3)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	105
KI= 377.2;	FE=001	1.67E+02	6.70E+02	1.58E+02	9.49E+01	64
KI= 388.0;	FE=002	1.23E+02	4.35E+02	1.08E+02	8.75E+01	76
$400-n-C4-ANE;	FE=003	1.40E+02	6.30E+02	1.29E+02	9.24E+01	95
KI= 457.6;	FE=004	3.21E+03	8.05E+03	2.13E+03	6.66E+01	97
$500-n-C5-ANE;	FE=005	1.16E+02	3.14E+02	7.65E+01	6.58E+01	106
CS2 SOLVENT		0.00E+00	0.00E+00	0.00E+00	1.70E+38	106
KI= 549.7;	FE=010	4.02E+02	9.65E+02	2.89E+02	7.19E+01	64
KI= 552.4;	FE=011	2.33E+03	1.18E+04	2.43E+03	1.04E+02	81
KI= 560.4;	FE=012	3.97E+02	8.01E+02	2.45E+02	6.16E+01	64
KI= 577.3;	FE=013	1.53E+02	4.70E+02	9.81E+01	6.43E+01	105
$600-n-C6-ANE;	FE=014	1.31E+02	2.54E+02	5.95E+01	4.55E+01	106
KI= 609.2;	FE=015	4.23E+02	9.14E+02	3.31E+02	7.83E+01	11
KI= 611.2;	FE=016	4.46E+02	7.14E+02	2.77E+02	6.21E+01	8
KI= 613.9;	FE=017	3.87E+02	9.47E+02	2.83E+02	7.30E+01	26
KI= 624.8;	FE=018	1.44E+02	3.69E+02	7.95E+01	5.52E+01	106
KI= 627.3;	FE=019	3.29E+02	8.17E+02	2.49E+02	7.55E+01	25
KI= 632.4;	FE=020	1.82E+02	3.16E+02	7.11E+01	3.90E+01	53
KI= 653.0;	FE=021	1.00E+02	3.76E+02	7.84E+01	7.82E+01	51
KI= 656.1;	FE=022	1.31E+02	3.55E+02	9.93E+01	7.55E+01	106
KI= 658.8;	FE=023	1.19E+02	4.09E+02	1.09E+02	9.10E+01	106
IMPURITY #2(KI= 665.8)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	104
KI= 669.0;	FE=024	2.17E+02	5.22E+02	1.17E+02	5.40E+01	71
KI= 670.4;	FE=025	1.30E+02	2.88E+02	6.12E+01	4.69E+01	103
KI= 677.4;	FE=026	9.94E+01	2.01E+02	5.00E+01	5.03E+01	106
KI= 679.8;	FE=027	1.61E+02	4.74E+02	9.87E+01	6.11E+01	102
KI= 682.0;	FE=028	1.51E+02	4.41E+02	9.56E+01	6.34E+01	106
KI= 684.6;	FE=029	1.68E+02	5.11E+02	1.17E+02	7.00E+01	105
KI= 685.8;	FE=030	2.02E+02	2.25E+02	6.44E+01	3.20E+01	22
$700-n-C7-ANE;	FE=031	8.39E+01	1.92E+02	3.76E+01	4.48E+01	106
KI= 701.8;	FE=032	2.12E+02	1.66E+02	6.73E+01	3.17E+01	6
KI= 708.0;	FE=035	2.38E+02	1.70E+02	8.61E+01	3.62E+01	3
KI= 712.5;	FE=036	1.58E+02	3.82E+02	1.04E+02	6.57E+01	106
KI= 715.6;	FE=037	2.59E+02	6.14E+02	1.05E+02	4.05E+01	50
KI= 719.1;	FE=038	0.00E+00				1
KI= 725.8;	FE=039	1.72E+02	3.94E+02	8.97E+01	5.23E+01	92
KI= 731.0;	FE=041	1.49E+02	1.43E+02	6.86E+01	4.60E+01	4
KI= 733.6;	FE=042	3.23E+02	8.43E+02	1.80E+02	5.57E+01	40
KI= 741.2;	FE=044	3.43E+02	1.11E+03	2.26E+02	6.60E+01	49

TABLE 12 (cont'd)

KI= 745.4;	FE=046	2.52E+02				1
KI= 749.9;	FE=047	3.76E+02	6.36E+02	2.28E+02	6.08E+01	9
KI= 753.9;	FE=048	2.53E+02	4.12E+02	1.06E+02	4.20E+01	20
KI= 757.1;	FE=049	1.06E+02	1.01E+02	3.64E+01	3.43E+01	9
KI= 758.8;	FE=050	1.71E+02	4.50E+02	1.10E+02	6.43E+01	106
KI= 762.0;	FE=051	2.83E+02	4.40E+02	1.16E+02	4.12E+01	19
KI= 765.3;	FE=052	1.55E+02	2.66E+02	6.95E+01	4.50E+01	51
KI= 766.4;	FE=053	2.73E+02	2.94E+01	1.48E+01	5.41E+00	3
KI= 768.8;	FE=054	1.69E+02	4.65E+02	9.42E+01	5.57E+01	76
KI= 770.6;	FE=055	3.39E+02	1.10E+03	2.13E+02	6.28E+01	44
KI= 772.4;	FE=056	1.05E+02	2.21E+02	6.13E+01	5.83E+01	19
KI= 775.2;	FE=057	3.06E+02	4.37E+02	1.06E+02	3.45E+01	44
KI= 781.0;	FE=058	2.57E+02	2.50E+02	7.68E+01	3.05E+01	7
KI= 783.2;	FE=059	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI= 784.4;	FE=060	4.36E+02	1.14E+03	2.82E+02	6.47E+01	25
KI= 785.4;	FE=061	0.00E+00	0.00E+00	0.00E+00	1.70E+38	7
KI= 786.9;	FE=062	2.03E+02	6.01E+02	1.11E+02	5.45E+01	72
KI= 791.1;	FE=063	0.00E+00				1
KI= 795.7;	FE=065	3.45E+02	5.99E+02	1.36E+02	3.94E+01	39
$800-n-C8-ANE;	FE=066	1.45E+02	3.69E+02	8.64E+01	5.94E+01	57
KI= 807.1;	FE=069	0.00E+00				1
KI= 813.6;	FE=072	0.00E+00				1
KI= 818.2;	FE=074	2.46E+02	3.50E+02	9.48E+01	3.85E+01	17
KI= 824.2;	FE=076	2.60E+02	7.21E+02	1.52E+02	5.83E+01	79
KI= 828.1;	FE=078	4.21E+02	1.12E+03	2.83E+02	6.71E+01	33
KI= 834.4;	FE=079	1.64E+03	4.65E+03	1.27E+03	7.76E+01	66
KI= 837.0;	FE=080	0.00E+00				1
KI= 840.8;	FE=081	1.85E+02	3.73E+02	1.11E+02	5.99E+01	28
KI= 842.7;	FE=082	2.35E+02	1.98E+02	8.86E+01	3.76E+01	4
KI= 854.4;	FE=088	1.81E+02	6.71E+02	1.29E+02	7.13E+01	106
KI= 856.1;	FE=089	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI= 862.2;	FE=091	1.73E+02	7.69E+02	1.35E+02	7.81E+01	106
KI= 867.4;	FE=094	0.00E+00	0.00E+00	0.00E+00	1.70E+38	5
KI= 869.5;	FE=095	0.00E+00				1
KI= 871.2;	FE=096	0.00E+00	0.00E+00	0.00E+00	1.70E+38	6
KI= 880.0;	FE=099	3.13E+02	5.07E+02	1.39E+02	4.45E+01	17
KI= 881.6;	FE=100	2.73E+02				1
KI= 884.5;	FE=102	1.52E+02	5.65E+02	1.06E+02	6.96E+01	106
KI= 887.4;	FE=103	1.94E+02				1
KI= 890.9;	FE=104	0.00E+00				1
KI= 894.6;	FE=106	0.00E+00	0.00E+00	0.00E+00	1.70E+38	3
$900-n-C9-ANE;	FE=109	2.42E+02	2.07E+02	6.97E+01	2.88E+01	9
KI= 908.4;	FE=112	2.68E+02	4.60E+02	1.29E+02	4.81E+01	11
KI= 910.8;	FE=113	1.72E+02				1
KI= 913.9;	FE=114	0.00E+00				1
KI= 917.7;	FE=116	0.00E+00	0.00E+00	0.00E+00	1.70E+38	4
KI= 920.1;	FE=117	1.22E+02	3.09E+02	7.09E+01	5.81E+01	100
KI= 933.5;	FE=122	0.00E+00	0.00E+00	0.00E+00	1.70E+38	3
KI= 939.4;	FE=123	1.95E+02	3.73E+00	2.64E+00	1.35E+00	2

TABLE 12 (cont'd)

KI= 941.0;	FE=124	0.00E+00				1
KI= 945.3;	FE=125	0.00E+00				1
KI= 947.4;	FE=126	1.23E+02	3.21E+02	7.29E+01	5.94E+01	105
KI= 952.0;	FE=127	0.00E+00				1
KI= 955.8;	FE=129	1.17E+02	3.56E+02	7.08E+01	6.07E+01	105
KI= 956.8;	FE=130	0.00E+00	0.00E+00	0.00E+00	1.70E+38	4
KI= 962.1;	FE=132	0.00E+00				1
KI= 964.7;	FE=133	0.00E+00	0.00E+00	0.00E+00	1.70E+38	93
KI= 967.4;	FE=135	0.00E+00				1
KI= 972.7;	FE=137	1.13E+02	5.45E+02	9.08E+01	8.02E+01	106
KI= 974.9;	FE=138	0.00E+00				1
KI= 979.2;	FE=140	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI= 986.2;	FE=144	9.20E+01	2.33E+02	5.12E+01	5.57E+01	106
KI= 989.0;	FE=145	0.00E+00				1
KI= 993.5;	FE=146	0.00E+00				1
KI= 995.3;	FE=147	0.00E+00				1
$1000-n-C10-ANE;	FE=149	2.22E+02				1
KI=1003.9;	FE=150	2.91E+02	5.58E+02	1.10E+02	3.78E+01	47
KI=1009.0;	FE=151	3.42E+02	1.95E+02	8.96E+01	2.62E+01	5
IMPURITY #3(KI=1010.3)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	92
KI=1013.9;	FE=152	1.10E+02	2.45E+02	5.63E+01	5.11E+01	92
KI=1017.0;	FE=153	0.00E+00	0.00E+00	0.00E+00	1.70E+38	13
KI=1019.3;	FE=154	1.51E+02	3.71E+02	8.57E+01	5.67E+01	58
KI=1020.1;	FE=155	3.17E+02	3.95E+02	1.20E+02	3.79E+01	16
KI=1025.8;	FE=157	1.90E+02	5.82E+01	4.11E+01	2.17E+01	2
KI=1028.4;	FE=158	8.50E+01	3.91E+02	7.84E+01	9.22E+01	88
KI=1031.6;	FE=159	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1034.6;	FE=161	0.00E+00	0.00E+00	0.00E+00	1.70E+38	4
KI=1036.6;	FE=162	2.40E+02	2.06E+02	6.30E+01	2.62E+01	7
KI=1040.6;	FE=164	0.00E+00				1
KI=1044.7;	FE=166	3.06E+02	6.43E+02	1.93E+02	6.31E+01	22
KI=1046.4;	FE=167	1.07E+02	2.98E+02	6.43E+01	5.99E+01	71
KI=1049.4;	FE=168	3.55E+02	4.97E+02	1.53E+02	4.33E+01	7
KI=1050.6;	FE=169	5.00E+02	1.09E+03	2.72E+02	5.44E+01	22
KI=1053.8;	FE=170	9.11E+01	2.52E+02	5.67E+01	6.23E+01	78
KI=1055.3;	FE=171	6.69E+02	8.37E+02	3.53E+02	5.27E+01	6
KI=1060.8;	FE=174	0.00E+00				1
KI=1064.6;	FE=175	2.93E+02				1
KI=1070.6;	FE=177	6.47E+02	1.67E+03	4.38E+02	6.77E+01	28
KI=1072.8;	FE=178	1.80E+02	5.67E+02	1.28E+02	7.12E+01	77
KI=1079.0;	FE=179	4.12E+02	9.81E+02	2.47E+02	5.99E+01	77
KI=1084.3;	FE=181	3.11E+02	3.65E+02	7.96E+01	2.56E+01	21
KI=1087.2;	FE=182	0.00E+00				1
KI=1090.8;	FE=184	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
$1100-n-C11-ANE;	FE=187	1.43E+02	3.98E+02	8.35E+01	5.85E+01	57
KI=1104.4;	FE=189	2.84E+02	3.80E+02	1.26E+02	4.45E+01	10
KI=1106.6;	FE=190	0.00E+00	0.00E+00	0.00E+00	1.70E+38	4
KI=1108.4;	FE=191	2.00E+02	7.37E+02	1.41E+02	7.05E+01	54
KI=1112.6;	FE=193	8.02E+01	3.41E+02	6.15E+01	7.67E+01	90

TABLE 12 (cont'd)

KI=1123.4;	FE=198	1.86E+02				1
KI=1127.0;	FE=199	0.00E+00				1
KI=1132.7;	FE=201	4.60E+02	1.07E+03	2.68E+02	5.81E+01	30
KI=1133.7;	FE=202	1.16E+02	8.89E+01	3.65E+01	3.16E+01	6
KI=1137.1;	FE=204	0.00E+00	0.00E+00	0.00E+00	1.70E+38	4
KI=1139.7;	FE=205	1.37E+02	3.77E+02	8.98E+01	6.56E+01	60
KI=1141.0;	FE=206	7.53E+02	4.16E+03	6.70E+02	8.89E+01	72
KI=1144.0;	FE=207	0.00E+00	0.00E+00	0.00E+00	1.70E+38	9
KI=1148.3;	FE=208	2.43E+02	6.73E+02	1.68E+02	6.90E+01	57
KI=1149.8;	FE=209	2.28E+02	2.38E+02	7.68E+01	3.36E+01	11
KI=1155.0;	FE=211	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1156.1;	FE=212	0.00E+00	0.00E+00	0.00E+00	1.70E+38	3
KI=1159.8;	FE=214	0.00E+00	0.00E+00	0.00E+00	1.70E+38	29
KI=1161.8;	FE=215	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1164.2;	FE=216	1.37E+03	2.45E+03	1.19E+03	8.69E+01	12
KI=1170.4;	FE=217	0.00E+00	0.00E+00	0.00E+00	1.70E+38	17
KI=1171.4;	FE=218	0.00E+00	0.00E+00	0.00E+00	1.70E+38	3
KI=1179.7;	FE=220	0.00E+00	0.00E+00	0.00E+00	1.70E+38	5
KI=1181.4;	FE=221	0.00E+00	0.00E+00	0.00E+00	1.70E+38	9
KI=1185.3;	FE=222	0.00E+00	0.00E+00	0.00E+00	1.70E+38	12
KI=1191.5;	FE=224	3.00E+02	2.96E+02	1.14E+02	3.78E+01	7
KI=1195.4;	FE=226	0.00E+00				1
$1200-n-C12-ANE;	FE=227	0.00E+00	0.00E+00	0.00E+00	1.70E+38	18
KI=1203.4;	FE=228	3.75E+02	6.29E+02	2.33E+02	6.22E+01	9
KI=1205.6;	FE=229	1.79E+02	5.92E+01	3.04E+01	1.70E+01	3
KI=1210.9;	FE=231	0.00E+00	0.00E+00	0.00E+00	1.70E+38	5
KI=1218.2;	FE=233	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1220.0;	FE=234	0.00E+00	0.00E+00	0.00E+00	1.70E+38	4
KI=1221.7;	FE=235	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1224.3;	FE=236	0.00E+00				1
KI=1227.8;	FE=237	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1233.9;	FE=238	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1238.6;	FE=239	0.00E+00	0.00E+00	0.00E+00	1.70E+38	3
KI=1241.7;	FE=240	0.00E+00	0.00E+00	0.00E+00	1.70E+38	3
KI=1248.5;	FE=242	0.00E+00				1
KI=1259.3;	FE=245	2.44E+02	2.56E+02	6.46E+01	2.65E+01	11
KI=1267.6;	FE=247	0.00E+00				1
KI=1273.1;	FE=249	0.00E+00				1
KI=1276.1;	FE=250	0.00E+00	0.00E+00	0.00E+00	1.70E+38	3
KI=1282.7;	FE=253	6.01E+01	1.69E+02	4.06E+01	6.75E+01	93
KI=1288.3;	FE=255	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
$1300-n-C13-ANE;	FE=257	0.00E+00	0.00E+00	0.00E+00	1.70E+38	39
KI=1304.4;	FE=258	4.31E+02	9.19E+02	2.72E+02	6.30E+01	12
KI=1311.5;	FE=260	0.00E+00				1
KI=1318.0;	FE=262	1.58E+02				1
KI=1333.4;	FE=265	3.82E+03	6.51E+02	4.60E+02	1.20E+01	2
KI=1338.4;	FE=266	0.00E+00	0.00E+00	0.00E+00	1.70E+38	25
KI=1342.2;	FE=267	1.80E+02	2.52E+02	1.00E+02	5.58E+01	24
KI=1351.1;	FE=270	0.00E+00				1

TABLE 12 (concluded)

KI=1358.9;	FE=272	0.00E+00				1
KI=1376.7;	FE=275	0.00E+00				1
KI=1393.4;	FE=278	1.68E+02	2.32E+01	1.64E+01	9.76E+00	2
KI=1407.9;	FE=281	1.48E+02	1.09E+02	3.30E+01	2.23E+01	16
KI=1411.1;	FE=282	2.47E+02				1
KI=1413.6;	FE=283	2.55E+02				1
KI=1434.1;	FE=288	0.00E+00				1
KI=1446.1;	FE=290	0.00E+00				1
KI=1453.4;	FE=292	0.00E+00				1
$1500-n-C15-ANE;	FE=296	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
&ANTH-d10(IS)(KI=1772)		1.07E+05	1.17E+04	5.85E+03	5.47E+00	106
IMPURITY #6(KI=1946.5)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
IMPURITY #7(KI=1952.8)		0.00E+00				1
$2118-(IMPURITY #8)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	106
TOTAL CONCENTRATION		1.54E+04	2.32E+04	5.34E+03	3.46E+01	106

TABLE 13. REP7 OUTPUT OF A DATA BASE CONTAINING 106 WATER SOLUBLE FEATURE ANALYSES OF 53 PETROLEUM-DERIVED JP-4 FUELS IN UNITS OF KI (KOVATS INDEX)

STATISTICAL SUMMARY OF MH09 DATA BASE

CONSISTING OF 106 SAMPLES
RETENTION INDEX (KI)

COMPOUND NAME		AVERAGE	RANGE	STANDARD DEVIATION	%REL STANDARD DEVIATION	NUMBER OF SAMPLES
IMPURITY #1(KI=	368.3)	369.00	0.00E+00	0.00E+00	0.00E+00	105
KI= 377.2;	FE=001	375.48	3.78E+00	7.35E-01	1.96E-01	64
KI= 388.0;	FE=002	387.85	6.83E+00	1.23E+00	3.18E-01	76
$400-n-C4-ANE;	FE=003	400.00	0.00E+00	0.00E+00	0.00E+00	95
KI= 457.6;	FE=004	451.75	2.24E+01	4.71E+00	1.04E+00	97
$500-n-C5-ANE;	FE=005	500.00	0.00E+00	0.00E+00	0.00E+00	106
CS2 SOLVENT		512.17	6.86E+00	1.10E+00	2.15E-01	106
KI= 549.7;	FE=010	565.15	4.40E+00	1.16E+00	2.06E-01	64
KI= 552.4;	FE=011	566.68	4.85E+00	8.56E-01	1.51E-01	81
KI= 560.4;	FE=012	571.10	5.46E+00	1.02E+00	1.78E-01	64
KI= 577.3;	FE=013	581.88	3.38E+00	1.09E+00	1.87E-01	105
$600-n-C6-ANE;	FE=014	600.00	0.00E+00	0.00E+00	0.00E+00	106
KI= 609.2;	FE=015	609.01	9.75E-01	2.82E-01	4.63E-02	11
KI= 611.2;	FE=016	610.75	2.99E-01	1.39E-01	2.28E-02	8
KI= 613.9;	FE=017	613.42	7.64E-01	1.72E-01	2.80E-02	26
KI= 624.8;	FE=018	624.63	1.84E+00	2.30E-01	3.69E-02	106
KI= 627.3;	FE=019	626.65	4.72E-01	1.15E-01	1.83E-02	25
KI= 632.4;	FE=020	631.66	9.75E-01	1.68E-01	2.66E-02	53
KI= 653.0;	FE=021	652.50	7.34E-01	1.73E-01	2.66E-02	51
KI= 656.1;	FE=022	656.26	6.62E-01	1.50E-01	2.29E-02	106
KI= 658.8;	FE=023	660.00	0.00E+00	0.00E+00	0.00E+00	106
IMPURITY #2(KI=	665.8)	666.53	6.78E-01	1.38E-01	2.07E-02	104
KI= 669.0;	FE=024	668.94	9.57E-01	1.56E-01	2.34E-02	71
KI= 670.4;	FE=025	669.96	7.67E-01	1.61E-01	2.40E-02	103
KI= 677.4;	FE=026	677.29	5.04E-01	1.03E-01	1.53E-02	106
KI= 679.8;	FE=027	680.09	6.08E-01	8.87E-02	1.30E-02	102
KI= 682.0;	FE=028	682.43	4.52E-01	8.23E-02	1.21E-02	106
KI= 684.6;	FE=029	685.01	3.37E-01	6.86E-02	1.00E-02	105
KI= 685.8;	FE=030	686.03	3.70E-01	9.22E-02	1.34E-02	22
$700-n-C7-ANE;	FE=031	700.00	0.00E+00	0.00E+00	0.00E+00	106
KI= 701.8;	FE=032	701.38	1.24E+00	5.47E-01	7.79E-02	6
KI= 708.0;	FE=035	708.30	1.72E-01	8.78E-02	1.24E-02	3
KI= 712.5;	FE=036	712.92	4.37E-01	7.41E-02	1.04E-02	106
KI= 715.6;	FE=037	715.94	4.14E-01	9.56E-02	1.34E-02	50
KI= 719.1;	FE=038	719.55				1
KI= 725.8;	FE=039	726.23	5.24E-01	1.26E-01	1.74E-02	92
KI= 731.0;	FE=041	731.18	9.11E-01	3.89E-01	5.32E-02	4
KI= 733.6;	FE=042	733.67	6.93E-01	1.53E-01	2.08E-02	40
KI= 741.2;	FE=044	741.33	7.82E-01	1.56E-01	2.11E-02	49

TABLE 13 (cont'd)

KI= 745.4;	FE=046	744.79				1
KI= 749.9;	FE=047	749.76	1.07E+00	4.67E-01	6.23E-02	7
KI= 753.9;	FE=048	754.02	6.41E-01	1.31E-01	1.73E-02	20
KI= 757.1;	FE=049	756.90	6.23E-01	1.75E-01	2.31E-02	9
KI= 758.8;	FE=050	760.00	0.00E+00	0.00E+00	0.00E+00	106
KI= 762.0;	FE=051	762.52	1.02E+00	2.54E-01	3.33E-02	19
KI= 765.3;	FE=052	764.69	6.52E-01	1.53E-01	2.00E-02	51
KI= 766.4;	FE=053	765.96	1.49E-01	8.20E-02	1.07E-02	3
KI= 768.8;	FE=054	768.87	7.07E-01	1.24E-01	1.61E-02	76
KI= 770.6;	FE=055	770.60	7.61E-01	1.66E-01	2.15E-02	44
KI= 772.4;	FE=056	771.99	7.63E-01	1.96E-01	2.54E-02	19
KI= 775.2;	FE=057	775.28	1.06E+00	2.12E-01	2.73E-02	44
KI= 781.0;	FE=058	781.33	6.34E-01	2.31E-01	2.95E-02	7
KI= 783.2;	FE=059	783.88	4.00E-01	2.83E-01	3.61E-02	2
KI= 784.4;	FE=060	784.48	5.79E-01	1.92E-01	2.45E-02	23
KI= 785.4;	FE=061	784.65	4.61E-01	1.49E-01	1.89E-02	9
KI= 786.9;	FE=062	787.24	1.16E+00	2.29E-01	2.91E-02	72
KI= 791.1;	FE=063	790.36				1
KI= 794.4;	FE=064	795.74				1
KI= 795.7;	FE=065	796.23	9.43E-01	2.97E-01	3.73E-02	38
$800-n-C8-ANE;	FE=066	800.00	8.02E-01	7.96E-02	9.96E-03	57
KI= 807.1;	FE=069	807.15				1
KI= 813.6;	FE=072	814.15				1
KI= 818.2;	FE=074	818.60	9.05E-01	2.62E-01	3.20E-02	17
KI= 824.2;	FE=076	824.51	6.53E-01	1.98E-01	2.40E-02	79
KI= 828.1;	FE=078	827.99	7.87E-01	1.91E-01	2.30E-02	33
KI= 834.4;	FE=079	834.23	1.73E+00	3.85E-01	4.61E-02	70
KI= 837.0;	FE=080	837.70				1
KI= 840.8;	FE=081	840.71	6.93E-01	2.01E-01	2.39E-02	28
KI= 842.7;	FE=082	842.53	2.38E-01	1.21E-01	1.44E-02	4
KI= 854.4;	FE=088	855.19	3.59E-01	5.80E-02	6.78E-03	106
KI= 856.1;	FE=089	856.65	1.16E-01	8.23E-02	9.60E-03	2
KI= 862.2;	FE=091	863.00	0.00E+00	0.00E+00	0.00E+00	106
KI= 867.4;	FE=094	867.55	7.58E-01	3.36E-01	3.88E-02	5
KI= 869.5;	FE=095	868.64				1
KI= 871.2;	FE=096	870.96	1.32E+00	5.32E-01	6.11E-02	6
KI= 880.0;	FE=099	879.81	1.34E+00	4.12E-01	4.68E-02	18
KI= 881.6;	FE=100	881.32				1
KI= 884.5;	FE=102	886.01	5.69E-01	6.17E-02	6.97E-03	106
KI= 887.4;	FE=103	888.13				1
KI= 890.9;	FE=104	891.65				1
KI= 894.6;	FE=106	894.72	1.13E-01	6.23E-02	6.96E-03	3
$900-n-C9-ANE;	FE=109	900.08	6.87E-01	2.29E-01	2.54E-02	9
KI= 908.4;	FE=112	909.32	5.50E-01	1.55E-01	1.70E-02	11
KI= 910.8;	FE=113	910.17				1
KI= 913.9;	FE=114	911.82				1
KI= 917.7;	FE=116	917.25	5.45E-01	2.32E-01	2.53E-02	4
KI= 920.1;	FE=117	919.97	1.06E+00	1.19E-01	1.29E-02	100
KI= 933.5;	FE=122	933.47	3.09E-01	1.74E-01	1.86E-02	3

TABLE 13 (cont'd)

KI= 939.4;	FE=123	939.04	1.13E+00	7.98E-01	8.49E-02	2
KI= 941.0;	FE=124	941.06				1
KI= 945.3;	FE=125	945.93				1
KI= 947.4;	FE=126	948.83	5.25E-01	7.71E-02	8.12E-03	105
KI= 952.0;	FE=127	952.31				1
KI= 955.8;	FE=129	957.08	2.50E-01	4.57E-02	4.78E-03	105
KI= 956.8;	FE=130	958.19	5.03E-01	2.11E-01	2.20E-02	4
KI= 962.1;	FE=132	961.58				1
KI= 964.7;	FE=133	963.38	3.83E-01	4.92E-02	5.11E-03	92
KI= 967.4;	FE=135	967.90				1
KI= 972.7;	FE=137	973.98	5.89E-01	5.77E-02	5.92E-03	106
KI= 974.9;	FE=138	975.59				1
KI= 979.2;	FE=140	978.22	3.23E-02	2.29E-02	2.34E-03	2
KI= 986.2;	FE=144	987.00	0.00E+00	0.00E+00	0.00E+00	106
KI= 989.0;	FE=145	988.86				1
KI= 993.5;	FE=146	992.96				1
KI= 995.3;	FE=147	995.18				1
$1000-n-C10-ANE;	FE=149	1000.17				1
KI=1003.9;	FE=150	1005.16	1.39E+00	2.33E-01	2.32E-02	47
KI=1009.0;	FE=151	1009.66	5.00E-02	2.05E-02	2.03E-03	5
IMPURITY #3(KI=1010.3)		1009.96	1.03E+00	1.63E-01	1.62E-02	92
KI=1013.9;	FE=152	1015.56	6.47E-01	1.12E-01	1.10E-02	92
KI=1017.0;	FE=153	1017.06	9.17E-01	4.29E-01	4.22E-02	13
KI=1019.3;	FE=154	1018.69	7.36E-01	1.38E-01	1.36E-02	58
KI=1020.1;	FE=155	1020.49	1.30E+00	2.85E-01	2.80E-02	16
KI=1025.8;	FE=157	1025.94	4.98E-02	3.52E-02	3.43E-03	2
KI=1028.4;	FE=158	1027.76	1.07E+00	1.79E-01	1.74E-02	87
KI=1031.6;	FE=159	1032.04	1.29E-01	9.10E-02	8.82E-03	2
KI=1034.6;	FE=161	1034.63	4.19E-01	1.86E-01	1.80E-02	4
KI=1036.6;	FE=162	1036.46	2.50E-01	7.79E-02	7.51E-03	7
KI=1040.6;	FE=164	1039.32				1
KI=1044.7;	FE=166	1046.15	8.50E-01	1.80E-01	1.72E-02	22
KI=1046.4;	FE=167	1047.70	1.23E+00	2.02E-01	1.93E-02	71
KI=1049.4;	FE=168	1050.76	1.16E+00	3.59E-01	3.42E-02	7
KI=1050.6;	FE=169	1051.83	7.88E-01	1.78E-01	1.69E-02	22
KI=1053.8;	FE=170	1055.00	0.00E+00	0.00E+00	0.00E+00	78
KI=1055.3;	FE=171	1056.73	2 69E-01	9.88E-02	9.35E-03	6
KI=1060.8;	FE=174	1065.02				1
KI=1064.6;	FE=175	1069.97				1
KI=1070.6;	FE=177	1073.09	1.30E+00	4.30E-01	4.00E-02	29
KI=1072.8;	FE=178	1074.25	1.27E+00	2.76E-01	2.57E-02	73
KI=1079.0;	FE=179	1080.32	1.92E+00	3.39E-01	3.13E-02	80
KI=1084.3;	FE=181	1086.19	9.48E-01	2.59E-01	2.38E-02	21
KI=1087.2;	FE=182	1087.67				1
KI=1090.8;	FE=184	1091.54	9.99E-01	7.06E-01	6.47E-02	2
$1100-n-C11-ANE;	FE=187	1100.04	7.22E-01	1.43E-01	1.30E-02	57
KI=1104.4;	FE=189	1104.91	1.40E+00	4.32E-01	3.91E-02	10
KI=1106.6;	FE=190	1107.00	1.14E+00	4.93E-01	4.45E-02	4
KI=1108.4;	FE=191	1109.87	1.34E+00	2.22E-01	2.00E-02	54

TABLE 13 (cont'd)

KI=1112.6;	FE=193	1114.00	4.01E-01	4.22E-02	3.79E-03	90
KI=1123.4;	FE=198	1123.21				1
KI=1127.0;	FE=199	1126.40				1
KI=1132.7;	FE=201	1132.31	8.92E-01	2.13E-01	1.88E-02	30
KI=1133.7;	FE=202	1132.85	6.99E-01	2.82E-01	2.49E-02	6
KI=1137.1;	FE=204	1135.66	1.09E+00	5.16E-01	4.54E-02	4
KI=1139.7;	FE=205	1143.24	1.48E+00	3.76E-01	3.29E-02	60
KI=1141.0;	FE=206	1146.27	1.53E+00	4.32E-01	3.77E-02	71
KI=1144.0;	FE=207	1149.50	1.83E+00	5.51E-01	4.79E-02	9
KI=1148.3;	FE=208	1154.78	1.37E+00	3.12E-01	2.70E-02	58
KI=1149.8;	FE=209	1155.08	5.22E-02	1.84E-02	1.59E-03	7
KI=1155.0;	FE=211	1157.43	2.58E-01	1.82E-01	1.58E-02	2
KI=1156.1;	FE=212	1160.03	1.30E-01	6.74E-02	5.81E-03	3
KI=1159.8;	FE=214	1164.20	2.01E+00	7.94E-01	6.82E-02	29
KI=1161.8;	FE=215	1167.42	2.29E-01	1.62E-01	1.39E-02	2
KI=1164.2;	FE=216	1170.28	1.47E+00	6.16E-01	5.26E-02	12
KI=1170.4;	FE=217	1175.81	1.18E+00	1.97E-01	1.68E-02	57
KI=1171.4;	FE=218	1177.99	2.77E-01	1.55E-01	1.31E-02	3
KI=1179.7;	FE=220	1182.45	9.27E-01	4.12E-01	3.48E-02	5
KI=1181.4;	FE=221	1184.26	1.42E+00	5.34E-01	4.51E-02	9
KI=1185.3;	FE=222	1188.62	4.51E-01	1.47E-01	1.23E-02	12
KI=1191.5;	FE=224	1193.86	6.09E-01	2.34E-01	1.96E-02	7
KI=1195.4;	FE=226	1197.67				1
$1200-n-C12-ANE;	FE=227	1200.00	0.00E+00	0.00E+00	0.00E+00	18
KI=1203.4;	FE=228	1203.05	4.75E-01	1.60E-01	1.33E-02	9
KI=1205.6;	FE=229	1205.95	8.76E-01	4.41E-01	3.66E-02	3
KI=1210.9;	FE=231	1210.07	6.74E-01	2.77E-01	2.29E-02	5
KI=1218.2;	FE=233	1218.26	1.09E+00	7.69E-01	6.31E-02	2
KI=1220.0;	FE=234	1220.29	1.39E+00	6.02E-01	4.94E-02	4
KI=1221.7;	FE=235	1221.29	1.24E-01	8.79E-02	7.19E-03	2
KI=1224.3;	FE=236	1224.91				1
KI=1227.8;	FE=237	1227.63	1.04E-01	7.32E-02	5.96E-03	2
KI=1233.9;	FE=238	1234.20	4.03E-02	2.85E-02	2.31E-03	2
KI=1238.6;	FE=239	1239.04	1.97E+00	1.03E+00	8.30E-02	3
KI=1241.7;	FE=240	1245.09	3.38E-01	1.82E-01	1.46E-02	3
KI=1248.5;	FE=242	1252.40				1
KI=1259.3;	FE=245	1259.05	5.61E-01	1.61E-01	1.28E-02	11
KI=1267.6;	FE=247	1267.28				1
KI=1273.1;	FE=249	1272.65				1
KI=1276.1;	FE=250	1274.60	4.48E-01	2.54E-01	1.99E-02	3
KI=1282.7;	FE=253	1285.00	0.00E+00	0.00E+00	0.00E+00	93
KI=1288.3;	FE=255	1290.28	3.86E-02	2.73E-02	2.11E-03	2
$1300-n-C13-ANE;	FE=257	1300.00	1.06E-01	1.70E-02	1.31E-03	39
KI=1304.4;	FE=258	1301.88	1.45E+00	3.51E-01	2.70E-02	12
KI=1311.5;	FE=260	1313.58				1
KI=1318.0;	FE=262	1319.09				1
KI=1333.4;	FE=265	1334.91	4.10E-02	2.90E-02	2.17E-03	2
KI=1338.4;	FE=266	1338.51	1.22E+00	2.56E-01	1.92E-02	32
KI=1342.2;	FE=267	1342.73	6.29E-01	1.38E-01	1.03E-02	24

TABLE 13 (concluded)

KI=1351.1;	FE=270	1350.56				1
KI=1358.9;	FE=272	1359.41				1
KI=1376.7;	FE=275	1375.86				1
KI=1393.4;	FE=278	1396.10	3.83E-01	2.71E-01	1.94E-02	2
KI=1407.9;	FE=281	1409.97	5.23E-01	1.31E-01	9.27E-03	16
KI=1411.1;	FE=282	1413.52				1
KI=1413.6;	FE=283	1413.96				1
KI=1434.1;	FE=288	1434.73				1
KI=1446.1;	FE=290	1446.28				1
KI=1453.4;	FE=292	1452.08				1
$1500-n-C15-ANE;	FE=296	1500.13	2.63E-01	1.86E-01	1.24E-02	2
&ANTH-d10(15)(KI=1772)		1792.67	4.74E+01	6.97E+00	3.89E-01	106
IMPURITY #6(KI=1946.5)		1946.58	6.45E-01	4.56E-01	2.34E-02	2
IMPURITY #7(KI=1952.8)		1953.14				1
$2118-(IMPURITY #8)		2118.00	0.00E+00	0.00E+00	0.00E+00	106
TOTAL CONCENTRATION		5000.00	0.00E+00	0.00E+00	0.00E+00	106

TABLE 14. REP6 OUTPUT OF A DATA BASE CONTAINING TWO DUPLICATE WATER SOLUBLE FEATURE ANALYSES OF A PETROLEUM-DERIVED JP-5 FUEL IN UNITS OF µG/L

STATISTICAL SUMMARY OF MH13 DATA BASE

CONSISTING OF 2 SAMPLES
CONCENTRATION (ug/L)

COMPOUND NAME		AVERAGE	RANGE	STANDARD DEVIATION	%REL STANDARD DEVIATION	NUMBER OF SAMPLES
IMPURITY #1(KI= 368.3)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI= 388.0;	FE=002	1.27E+01				1
KI= 457.6;	FE=004	1.85E+01				1
$500-n-C5-ANE;	FE=005	4.31E+01	1.27E+01	9.01E+00	2.09E+01	2
CS2 SOLVENT		0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
$600-n-C6-ANE;	FE=014	1.55E+01				1
KI= 624.8;	FE=018	2.20E+01				1
KI= 658.8;	FE=023	1.10E+03	2.31E+01	1.63E+01	1.48E+00	2
IMPURITY #2(KI= 665.8)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI= 758.8;	FE=050	3.23E+01	1.90E+01	1.35E+01	4.17E+01	2
KI= 834.4;	FE=079	9.32E+01				1
KI= 862.2;	FE=091	6.97E+01				1
KI= 884.5;	FE=102	4.59E+01				1
KI= 947.4;	FE=126	2.77E+01				1
KI= 955.8;	FE=129	1.44E+02	1.55E+02	1.09E+02	7.58E+01	2
KI= 956.8;	FE=130	5.22E+01				1
KI= 964.7;	FE=133	6.41E+01	2.08E+01	1.47E+01	2.30E+01	2
KI= 972.7;	FE=137	1.18E+02	3.01E+01	2.13E+01	1.80E+01	2
KI= 986.2;	FE=144	3.91E+02	7.67E+01	5.42E+01	1.39E+01	2
KI=1003.9;	FE=150	1.53E+01				1
IMPURITY #3(KI=1010.3)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1013.9;	FE=152	2.31E+02	1.50E+01	1.06E+01	4.59E+00	2
KI=1019.3;	FE=154	1.79E+01	1.21E+00	8.54E-01	4.76E+00	2
KI=1028.4;	FE=158	9.52E+02	8.80E+00	6.23E+00	6.54E-01	2
KI=1044.7;	FE=166	1.64E+01	1.23E+00	8.68E-01	5.30E+00	2
KI=1046.4;	FE=167	5.13E+01	5.10E+00	3.61E+00	7.03E+00	2
KI=1049.4;	FE=168	1.97E+01	7.76E+00	5.48E+00	2.78E+01	2
KI=1050.6;	FE=169	9.39E+01	8.10E+00	5.73E+00	6.10E+00	2
KI=1053.8;	FE=170	7.16E+01	1.30E+01	9.19E+00	1.28E+01	2
KI=1055.3;	FE=171	1.62E+01				1
KI=1072.8;	FE=178	1.88E+02	1.76E+02	1.25E+02	6.62E+01	2
KI=1079.0;	FE=179	4.16E+02	7.71E-01	5.45E-01	1.31E-01	2
KI=1084.3;	FE=181	1.97E+01				1
$1100-n-C11-ANE;	FE=187	6.30E+01	7.48E+00	5.29E+00	8.39E+00	2
KI=1108.4;	FE=191	3.96E+01	6.01E+00	4.25E+00	1.07E+01	2
KI=1112.6;	FE=193	7.92E+01	5.50E+00	3.89E+00	4.91E+00	2
KI=1132.7;	FE=201	4.34E+02	2.95E+01	2.09E+01	4.80E+00	2
KI=1139.7;	FE=205	7.67E+02	2.72E+00	1.92E+00	2.51E-01	2
KI=1141.0;	FE=206	9.81E+01	2.99E+00	2.11E+00	2.15E+00	2
KI=1144.0;	FE=207	2.94E+01	1.39E+01	9.83E+00	3.34E+01	2

TABLE 14 (concluded)

KI=1148.3;	FE=208	6.13E+02				1
KI=1159.8;	FE=214	2.30E+01				1
KI=1170.4;	FE=217	3.23E+02				1
KI=1175.9;	FE=219	4.82E+01				1
KI=1181.4;	FE=221	1.03E+02				1
KI=1185.3;	FE=222	5.89E+01				1
KI=1189.6;	FE=223	8.55E+01				1
KI=1191.5;	FE=224	8.02E+01				1
$1200-n-C12-ANE;	FE=227	6.42E+01				1
KI=1203.4;	FE=228	5.53E+01				1
KI=1207.2;	FE=230	5.14E+01				1
KI=1210.9;	FE=231	5.46E+01				1
KI=1220.0;	FE=234	4.06E+01				1
KI=1227.8;	FE=237	2.57E+01				1
KI=1254.8;	FE=244	6.72E+01				1
KI=1259.3;	FE=245	1.04E+02	5.58E+01	3.95E+01	3.78E+01	2
KI=1267.6;	FE=247	1.42E+01				1
KI=1276.1;	FE=250	6.48E+01	6.01E+00	4.25E+00	6.56E+00	2
KI=1282.7;	FE=253	2.06E+02	5.52E+00	3.90E+00	1.89E+00	2
KI=1413.6;	FE=283	1.23E+01				1
&ANTH-d10(IS)(KI=1772)		5.67E+03	9.77E-04	9.77E-04	1.72E-05	2
$2118-(IMPURITY #8)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
TOTAL CONCENTRATION		7.95E+03	7.20E+02	5.09E+02	6.41E+00	2

TABLE 15. REP6 OUTPUT OF A DATA BASE CONTAINING TWO DUPLICATE WATER SOLUBLE FEATURE ANALYSES OF A PETROLEUM-DERIVED JP-5 FUEL IN UNITS OF %REL (RELATIVE TO THE WATER EQUILIBRATED REFERENCE JP-4 FUEL)

STATISTICAL SUMMARY OF MH13 DATA BASE

CONSISTING OF 2 SAMPLES
CONCENTRATION (% REL.)

COMPOUND NAME		AVERAGE	RANGE	STANDARD DEVIATION	%REL STANDARD DEVIATION	NUMBER OF SAMPLES
IMPURITY #1(KI= 368.3)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI= 389.0;	FE=002	1.85E+01				1
KI= 457.6;	FE=004	1.38E+02				1
$500-n-C5-ANE;	FE=005	1.01E+01	2.98E+00	2.11E+00	2.09E+01	2
CS2 SOLVENT		0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
$600-n-C6-ANE;	FE=014	4.46E+00				1
KI= 624.8;	FE=018	3.73E+00				1
KI= 658.8;	FE=023	8.30E+00	1.74E-01	1.23E-01	1.48E+00	2
IMPURITY #2(KI= 665.8)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI= 758.8;	FE=050	3.44E-01	2.03E-01	1.43E-01	4.17E+01	2
KI= 834.4;	FE=079	2.78E+02				1
KI= 862.2;	FE=091	2.94E+00				1
KI= 884.5;	FE=102	3.89E+00				1
KI= 947.4;	FE=126	3.57E+01				1
KI= 955.8;	FE=129	3.66E+01	3.92E+01	2.78E+01	7.58E+01	2
KI= 956.8;	FE=130	0.00E+00				1
KI= 964.7;	FE=133	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI= 972.7;	FE=137	7.39E+01	1.89E+01	1.33E+01	1.80E+01	2
KI= 986.2;	FE=144	5.68E+01	1.11E+01	7.87E+00	1.39E+01	2
KI=1003.9;	FE=150	2.13E+02				1
IMPURITY #3(KI=1010.3)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1013.9;	FE=152	7.61E+01	4.94E+00	3.49E+00	4.59E+00	2
KI=1019.3;	FE=154	1.34E+02	9.04E+00	6.39E+00	4.76E+00	2
KI=1028.4;	FE=158	7.77E+02	7.19E+00	5.08E+00	6.54E-01	2
KI=1044.7;	FE=166	1.86E+02	1.40E+01	9.88E+00	5.30E+00	2
KI=1046.4;	FE=167	1.92E+02	1.91E+01	1.35E+01	7.03E+00	2
KI=1049.4;	FE=168	3.77E+02	1.48E+02	1.05E+02	2.78E+01	2
KI=1050.6;	FE=169	1.57E+03	1.35E+02	9.58E+01	6.10E+00	2
KI=1053.8;	FE=170	2.13E+02	3.87E+01	2.74E+01	1.28E+01	2
KI=1055.3;	FE=171	3.10E+02				1
KI=1072.8;	FE=178	7.38E+02	6.90E+02	4.88E+02	6.62E+01	2
KI=1084.3;	FE=181	3.81E+02				1
$1100-n-C11-ANE;	FE=187	3.04E+02	3.61E+01	2.55E+01	8.39E+00	2
KI=1108.4;	FE=191	2.64E+02	4.00E+01	2.83E+01	1.07E+01	2
KI=1112.6;	FE=193	1.49E+02	1.03E+01	7.30E+00	4.91E+00	2
KI=1132.7;	FE=201	5.33E+03	3.62E+02	2.56E+02	4.80E+00	2
KI=1139.7;	FE=205	1.87E+03	6.64E+00	4.69E+00	2.51E-01	2
KI=1141.0;	FE=206	1.41E+03	4.29E+01	3.04E+01	2.15E+00	2
KI=1144.0;	FE=207	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2

TABLE 15 (concluded)

KI=1148.3;	FE=208	2.88E+03				1
KI=1159.8;	FE=214	0.00E+00				1
KI=1170.4;	FE=217	0.00E+00				1
KI=1175.9;	FE=219	0.00E+00				1
KI=1181.4;	FE=221	0.00E+00				1
KI=1185.3;	FE=222	0.00E+00				1
KI=1189.6;	FE=223	0.00E+00				1
KI=1191.5;	FE=224	1.47E+03				1
$1200-n-C12-ANE;	FE=227	0.00E+00				1
KI=1203.4;	FE=228	1.06E+03				1
KI=1207.2;	FE=230	9.61E+02				1
KI=1210.9;	FE=231	0.00E+00				1
KI=1220.0;	FE=234	0.00E+00				1
KI=1227.8;	FE=237	0.00E+00				1
KI=1254.8;	FE=244	0.00E+00				1
KI=1259.3;	FE=245	1.75E+03	9.33E+02	6.60E+02	3.78E+01	2
KI=1267.6;	FE=247	0.00E+00				1
KI=1276.1;	FE=250	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1282.7;	FE=253	1.38E+02	3.70E+00	2.62E+00	1.89E+00	2
KI=1413.6;	FE=283	2.39E+02				1
&ANTH-d10(IS)(KI=1772)		1.13E+05	0.00E+00	0.00E+00	0.00E+00	2
$2118-(IMPURITY #8)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
TOTAL CONCENTRATION		1.97E+04	5.99E+03	4.24E+03	2.15E+01	2

TABLE 16. REP6 OUTPUT OF A DATA BASE CONTAINING TWO DUPLICATE WATER SOLUBLE FEATURE ANALYSES OF ONE SHALE-DERIVED JP-4 FUEL IN UNITS OF µG/L

STATISTICAL SUMMARY OF MH13 DATA BASE

CONSISTING OF 2 SAMPLES
CONCENTRATION (ug/L)

COMPOUND NAME		AVERAGE	RANGE	STANDARD DEVIATION	%REL STANDARD DEVIATION	NUMBER OF SAMPLES
IMPURITY #1(KI=	368.3)	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI= 457.6;	FE=004	1.12E+01	2.09E+00	1.48E+00	1.32E+01	2
$500-n-C5-ANE;	FE=005	5.03E+01	1.62E+01	1.15E+01	2.28E+01	2
CS2 SOLVENT		0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI= 560.4;	FE=012	4.12E+01				1
KI= 577.3;	FE=013	3.04E+01	3.59E+01	2.54E+01	8.37E+01	2
$600-n-C6-ANE;	FE=014	1.00E+02	1.10E+01	7.77E+00	7.75E+00	2
KI= 624.8;	FE=018	1.45E+02	2.45E+01	1.73E+01	1.19E+01	2
KI= 656.1;	FE=022	2.28E+02	3.14E+01	2.22E+01	9.75E+00	2
KI= 658.8;	FE=023	2.21E+03	2.30E+02	1.63E+02	7.37E+00	2
IMPURITY #2(KI=	665.8)	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI= 669.0;	FE=024	1.75E+01	5.33E+00	3.77E+00	2.16E+01	2
KI= 670.4;	FE=025	1.46E+01	6.54E+00	4.63E+00	3.17E+01	2
KI= 677.4;	FE=026	3.40E+01	8.54E+00	6.04E+00	1.77E+01	2
KI= 679.8;	FE=027	1.25E+01	2.26E+00	1.60E+00	1.28E+01	2
KI= 682.0;	FE=028	1.23E+01	2.30E-01	1.63E-01	1.32E+00	2
KI= 684.6;	FE=029	2.81E+01	1.98E+00	1.40E+00	4.99E+00	2
$700-n-C7-ANE;	FE=031	4.33E+01	5.26E+00	3.72E+00	8.58E+00	2
KI= 712.5;	FE=036	2.74E+02	3.86E+01	2.73E+01	9.96E+00	2
KI= 725.8;	FE=039	2.95E+01	1.24E+01	8.75E+00	2.96E+01	2
KI= 758.8;	FE=050	8.25E+03	1.12E+03	7.95E+02	9.63E+00	2
KI= 762.0;	FE=051	1.67E+01				1
KI= 768.8;	FE=054	2.65E+01	6.32E+00	4.47E+00	1.69E+01	2
KI= 786.9;	FE=062	2.27E+01	4.05E+00	2.86E+00	1.26E+01	2
KI= 794.4;	FE=064	3.43E+01				1
KI= 795.7;	FE=065	3.10E+01				1
$800-n-C8-ANE;	FE=066	1.96E+01				1
KI= 818.2;	FE=074	1.93E+01	4.97E+00	3.51E+00	1.82E+01	2
KI= 824.2;	FE=076	1.89E+01	9.44E+00	6.68E+00	3.53E+01	2
KI= 828.1;	FE=078	1.17E+01	4.95E+00	3.50E+00	3.00E+01	2
KI= 834.4;	FE=079	1.42E+01	3.80E+00	2.68E+00	1.89E+01	2
KI= 854.4;	FE=088	4.22E+02	5.60E+01	3.96E+01	9.37E+00	2
KI= 862.2;	FE=091	1.96E+03	3.05E+02	2.16E+02	1.10E+01	2
KI= 884.5;	FE=102	9.34E+02	1.18E+02	8.32E+01	8.91E+00	2
KI= 920.1;	FE=117	1.55E+01	3.89E+00	2.75E+00	1.78E+01	2
KI= 947.4;	FE=126	5.78E+01	3.87E+00	2.74E+00	4.73E+00	2
KI= 955.8;	FE=129	2.51E+02	1.13E+02	7.98E+01	3.17E+01	2
KI= 956.8;	FE=130	1.52E+02				1
KI= 964.7;	FE=133	1.13E+02	2.90E+00	2.05E+00	1.82E+00	2
KI= 972.7;	FE=137	8.86E+01	1.28E+01	9.06E+00	1.02E+01	2

TABLE 16 (concluded)

KI= 986.2;	FE=144	4.29E+02	7.22E+01	5.10E+01	1.19E+01	2
KI=1003.9;	FE=150	1.21E+01				1
IMPURITY #3(KI=1010.3)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1013.9;	FE=152	2.44E+02	3.83E+01	2.71E+01	1.11E+01	2
KI=1019.3;	FE=154	1.09E+01	1.36E+00	9.64E-01	8.87E+00	2
KI=1020.1;	FE=155	1.16E+01	3.43E+00	2.43E+00	2.08E+01	2
KI=1028.4;	FE=158	1.46E+02	1.99E+01	1.40E+01	9.64E+00	2
KI=1044.7;	FE=166	1.01E+01				1
KI=1046.4;	FE=167	2.96E+01	4.70E+00	3.32E+00	1.12E+01	2
KI=1050.6;	FE=169	1.94E+01				1
KI=1053.8;	FE=170	2.02E+01				1
KI=1072.8;	FE=178	6.17E+01	2.10E+00	1.48E+00	2.40E+00	2
KI=1079.0;	FE=179	9.44E+01	2.12E+01	1.50E+01	1.59E+01	2
$1100-n-C11-ANE;	FE=187	1.50E+01				1
KI=1108.4;	FE=191	1.14E+01				1
KI=1112.6;	FE=193	2.05E+01	1.90E+00	1.35E+00	6.57E+00	2
KI=1132.7;	FE=201	5.31E+01	3.87E+00	2.74E+00	5.16E+00	2
KI=1139.7;	FE=205	1.08E+02	1.68E+01	1.19E+01	1.10E+01	2
KI=1141.0;	FE=206	1.44E+01	7.52E+00	5.32E+00	3.69E+01	2
KI=1148.3;	FE=208	1.43E+02	2.00E+01	1.41E+01	9.91E+00	2
KI=1170.4;	FE=217	7.20E+01	1.23E+01	8.69E+00	1.21E+01	2
KI=1181.4;	FE=221	1.48E+01				1
KI=1185.3;	FE=222	1.51E+01				1
KI=1191.5;	FE=224	2.52E+01	1.56E+00	1.11E+00	4.40E+00	2
KI=1259.3;	FE=245	1.96E+01	1.10E+01	7.78E+00	3.97E+01	2
KI=1276.1;	FE=250	1.36E+01				1
KI=1282.7;	FE=253	2.52E+01	8.68E+00	6.14E+00	2.43E+01	2
KI=1342.2;	FE=267	1.25E+01	5.20E+00	3.68E+00	2.95E+01	2
$ANTH-d10(IS)(KI=1772)		5.09E+03	0.00E+00	0.00E+00	0.00E+00	2
$2118-(IMPURITY #8)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
TOTAL CONCENTRATION		1.72E+04	2.41E+03	1.70E+03	9.88E+00	2

TABLE 17. REP6 OUTPUT OF A DATA BASE CONTAINING TWO DUPLICATE WATER SOLUBLE FEATURE ANALYSES OF ONE SHALE-DERIVED JP-4 FUEL IN UNITS OF %REL (RELATIVE TO THE WATER EQUILIBRATED REFERENCE JP-4 FUEL)

STATISTICAL SUMMARY OF MH13 DATA BASE

CONSISTING OF 2 SAMPLES
CONCENTRATION (% REL.)

COMPOUND NAME		AVERAGE	RANGE	STANDARD DEVIATION	%REL STANDARD DEVIATION	NUMBER OF SAMPLES
IMPURITY #1(KI=	368.3)	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI= 457.6;	FE=004	8.37E+01	1.56E+01	1.10E+01	1.32E+01	2
$500-n-C5-ANE;	FE=005	1.18E+01	3.80E+00	2.69E+00	2.28E+01	2
CS2 SOLVENT		0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI= 560.4;	FE=012	4.89E+01				1
KI= 577.3;	FE=013	1.59E+01	1.89E+01	1.33E+01	8.37E+01	2
$600-n-C6-ANE;	FE=014	2.88E+01	3.15E+00	2.23E+00	7.75E+00	2
KI= 624.8;	FE=018	2.46E+01	4.14E+00	2.93E+00	1.19E+01	2
KI= 656.1;	FE=022	2.94E+01	4.05E+00	2.86E+00	9.75E+00	2
KI= 658.8;	FE=023	1.66E+01	1.74E+00	1.23E+00	7.37E+00	2
IMPURITY #2(KI=	665.8)	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI= 669.0;	FE=024	8.31E+01	2.54E+01	1.79E+01	2.16E+01	2
KI= 670.4;	FE=025	1.70E+01	7.61E+00	5.38E+00	3.17E+01	2
KI= 677.4;	FE=026	3.65E+01	9.16E+00	6.47E+00	1.77E+01	2
KI= 679.8;	FE=027	2.60E+01	4.71E+00	3.33E+00	1.28E+01	2
KI= 682.0;	FE=028	2.56E+01	4.79E-01	3.39E-01	1.32E+00	2
KI= 684.6;	FE=029	3.53E+01	2.49E+00	1.76E+00	4.99E+00	2
$700-n-C7-ANE;	FE=031	2.79E+01	3.39E+00	2.40E+00	8.58E+00	2
KI= 712.5;	FE=036	7.18E+01	1.01E+01	7.15E+00	9.96E+00	2
KI= 725.8;	FE=039	9.84E+01	4.12E+01	2.91E+01	2.96E+01	2
KI= 758.8;	FE=050	8.79E+01	1.20E+01	8.46E+00	9.63E+00	2
KI= 762.0;	FE=051	1.68E+02				1
KI= 768.8;	FE=054	1.26E+02	3.01E+01	2.13E+01	1.69E+01	2
KI= 786.9;	FE=062	1.63E+02	2.91E+01	2.06E+01	1.26E+01	2
KI= 795.7;	FE=065	5.10E+02	5.23E+01	3.70E+01	7.25E+00	2
$800-n-C8-ANE;	FE=066	1.08E+02				1
KI= 818.2;	FE=074	3.24E+02	8.34E+01	5.90E+01	1.82E+01	2
KI= 824.2;	FE=076	1.19E+02	5.95E+01	4.21E+01	3.53E+01	2
KI= 828.1;	FE=078	2.24E+02	9.49E+01	6.71E+01	3.00E+01	2
KI= 834.4;	FE=079	4.17E+01	1.03E+01	7.28E+00	1.74E+01	2
KI= 854.4;	FE=088	6.22E+01	8.25E+00	5.83E+00	9.37E+00	2
KI= 862.2;	FE=091	8.27E+01	1.29E+01	9.12E+00	1.10E+01	2
KI= 884.5;	FE=102	7.91E+01	9.97E+00	7.05E+00	8.91E+00	2
KI= 920.1;	FE=117	2.51E+01	6.29E+00	4.45E+00	1.78E+01	2
KI= 947.4;	FE=126	7.46E+01	5.00E+00	3.53E+00	4.73E+00	2
KI= 955.8;	FE=129	6.38E+01	2.86E+01	2.03E+01	3.17E+01	2
KI= 956.8;	FE=130	0.00E+00				1
KI= 964.7;	FE=133	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI= 972.7;	FE=137	5.55E+01	8.03E+00	5.68E+00	1.02E+01	2

TABLE 17 (concluded)

KI= 986.2;	FE=144	6.23E+01	1.05E+01	7.41E+00	1.19E+01	2
KI=1003.9;	FE=150	1.69E+02				1
IMPURITY #3(KI=1010.3)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1013.9;	FE=152	8.06E+01	1.26E+01	8.94E+00	1.11E+01	2
KI=1019.3;	FE=154	8.13E+01	1.02E+01	7.22E+00	8.87E+00	2
KI=1020.1;	FE=155	2.05E+02	6.05E+01	4.28E+01	2.08E+01	2
KI=1028.4;	FE=158	1.19E+02	1.62E+01	1.15E+01	9.64E+00	2
KI=1044.7;	FE=166	1.14E+02				1
KI=1046.4;	FE=167	1.11E+02	1.76E+01	1.24E+01	1.12E+01	2
KI=1050.6;	FE=169	3.24E+02				1
KI=1053.8;	FE=170	6.02E+01				1
KI=1072.8;	FE=178	2.42E+02	8.21E+00	5.81E+00	2.40E+00	2
KI=1079.0;	FE=179	5.43E+02	1.22E+02	8.61E+01	1.59E+01	2
$1100-n-C11-ANE;	FE=187	7.25E+01				1
KI=1108.4;	FE=191	7.61E+01				1
KI=1112.6;	FE=193	3.85E+01	3.58E+00	2.53E+00	6.57E+00	2
KI=1132.7;	FE=201	6.52E+02	4.76E+01	3.36E+01	5.16E+00	2
KI=1139.7;	FE=205	2.64E+02	4.11E+01	2.90E+01	1.10E+01	2
KI=1141.0;	FE=206	2.07E+02	1.08E+02	7.64E+01	3.69E+01	2
KI=1148.3;	FE=208	6.71E+02	9.40E+01	6.65E+01	9.91E+00	2
KI=1181.4;	FE=221	0.00E+00				1
KI=1185.3;	FE=222	0.00E+00				1
KI=1191.5;	FE=224	4.61E+02	2.87E+01	2.03E+01	4.40E+00	2
KI=1259.3;	FE=245	3.28E+02	1.84E+02	1.30E+02	3.97E+01	2
KI=1276.1;	FE=250	0.00E+00				1
KI=1282.7;	FE=253	1.69E+01	5.82E+00	4.12E+00	2.43E+01	2
KI=1342.2;	FE=267	9.61E+00	4.01E+00	2.83E+00	2.95E+01	2
$ANTH-d10(IS)(KI=1772)		1.02E+05	1.56E-02	1.56E-02	1.54E-05	2
$2118-(IMPURITY #8)		0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
TOTAL CONCENTRATION		7.33E+03	1.66E+03	1.18E+03	1.60E+01	2

TABLE 18. SUMMARY OF PERCENT NUMBER OF PEAKS NAMED AND PERCENT CONCENTRATION OF PEAKS NAMED IN DUPLICATE GC/FID ANALYSES OF WATER SOLUBLE FEATURES

MRC Sample ID No.	Percent Number Named vs. Total Number of Peaks		Percent Concentration Named Peaks vs. Total Concentration	
	Analysis No. 1	Analysis No. 2	Analysis No. 1	Analysis No. 2
585	57.0	49.6	92.3	93.4
588	62.8	66.7	93.8	93.9
589	61.8	60.8	98.6	98.4
590	----	----	----	----
591	75.0	68.1	99.5	98.9
592	74.4	72.5	96.5	96.3
593	86.6	79.7	98.2	97.6
594	73.1	74.7	87.7	87.7
595	77.9	77.5	98.8	98.7
596	82.3	83.7	99.0	98.6
597	74.4	81.3	98.8	98.7
598	61.8	62.0	96.7	96.7
599	52.2	55.6	98.3	98.3
600	70.1	68.1	95.3	91.1
601	81.0	81.4	99.1	99.3
602	77.1	78.3	98.9	99.2
603	75.3	79.0	98.5	98.3
604	73.2	72.2	95.0	95.3
605	73.8	73.6	97.5	96.8
606	65.3	62.3	92.6	80.5
607	65.1	62.4	90.0	90.9
608	63.3	64.2	97.3	97.3
609	78.8	81.7	99.6	99.6
610	82.6	78.8	99.3	99.2
611	71.0	71.2	99.2	99.1
612	75.6	76.7	94.8	98.3
613	83.3	77.6	99.3	98.4
614	81.9	79.3	99.2	87.0
615	79.2	78.2	84.5	87.7
616	77.9	78.2	96.4	96.7
617	75.9	76.6	97.4	97.1
618	76.6	73.7	96.3	96.1
619	74.0	75.6	96.6	98.6
620	77.3	78.7	97.3	95.3
621	79.7	74.1	94.8	90.3
622	78.9	77.6	89.0	93.1
623	76.1	77.8	96.0	96.9
624	73.9	73.0	95.9	92.9
625	71.4	77.9	92.0	96.5

TABLE 18 (concluded)

MRC Sample ID No.	Percent Number Named vs. Total Number of Peaks		Percent Concentration Named Peaks vs. Total Concentration	
	Analysis No. 1	Analysis No. 2	Analysis No. 1	Analysis No. 2
626	76.9	77.6	97.7	96.4
627	88.9	83.9	99.9	99.3
628	76.5	74.3	95.4	94.9
629	79.7	77.3	98.9	97.2
630	75.4	81.0	96.7	98.9
631	78.3	81.2	97.2	96.4
632	73.0	73.9	97.2	97.5
633	76.3	74.4	88.5	88.8
634	78.3	76.8	96.6	96.1
635	75.4	76.1	98.1	97.8
636	80.6	74.7	96.2	96.3
637	73.6	74.6	89.6	91.0
638	80.0	76.2	98.7	97.9
639	75.8	78.4	98.4	98.4
640	87.0	84.6	99.7	99.6
643	75.4	79.7	97.6	99.5
644	----	----	----	----

TABLE 19. REP8 OUTPUT OF A DATA BASE CONTAINING WATER SOLUBLE FEATURE ANALYSES OF ONE PETROLEUM-DERIVED JP-5 FUEL (NUMBER 606), ONE PETROLEUM-DERIVED JP-4 REFERENCE FUEL (NUMBER 607), AND ONE SHALE-DERIVED JP-4 FUEL (NUMBER 640)

CONCENTRATIONS OF NAMED COMPOUNDS IN SAMPLES
IN DATA BASE MH13
NUMBER OF SAMPLES= 3

COMPOUND NAME		SAMPLE NAME 606JP5WS01 (ug/L)	607JP4WS01 (ug/L)	640JP4WS01 (ug/L)	( )
PROCESSED FILE		BKP719	BKP721	BKP663	
IMPURITY #1(KI=	368.3)	0.0000	0.0000	0.0000	0.0000
KI= 377.2;	FE=001	0.0000	37.0865	0.0000	0.0000
KI= 388.0;	FE=002	12.6795	70.0249	0.0000	0.0000
$400-n-C4-ANE;	FE=003	0.0000	284.7618	0.0000	0.0000
KI= 457.6;	FE=004	18.5269	11.9932	10.1635	0.0000
$500-n-C5-ANE;	FE=005	49.4253	665.9817	58.4285	0.0000
CS2 SOLVENT		0.0000	0.0000	0.0000	0.0000
KI= 549.7;	FE=010	0.0000	280.8182	0.0000	0.0000
KI= 577.3;	FE=013	0.0000	219.7172	48.3301	0.0000
$600-n-C6-ANE;	FE=014	0.0000	383.8927	105.6686	0.0000
KI= 609.2;	FE=015	0.0000	20.8675	0.0000	0.0000
KI= 611.2;	FE=016	0.0000	13.3505	0.0000	0.0000
KI= 624.8;	FE=018	0.0000	677.6200	157.6457	0.0000
KI= 627.3;	FE=019	0.0000	13.3906	0.0000	0.0000
KI= 653.0;	FE=021	0.0000	54.8090	0.0000	0.0000
KI= 656.1;	FE=022	0.0000	884.8926	243.3972	0.0000
KI= 658.8;	FE=023	1112.2415	15400.2210	2322.9824	0.0000
IMPURITY #2(KI=	665.8)	0.0000	0.0000	0.0000	0.0000
KI= 669.0;	FE=024	0.0000	10.5727	20.1318	0.0000
KI= 670.4;	FE=025	0.0000	72.9006	17.8909	0.0000
KI= 677.4;	FE=026	0.0000	107.9405	38.2988	0.0000
KI= 679.8;	FE=027	0.0000	50.5663	13.5925	0.0000
KI= 682.0;	FE=028	0.0000	50.3690	12.4308	0.0000
KI= 684.6;	FE=029	0.0000	95.9863	29.0517	0.0000
$700-n-C7-ANE;	FE=031	0.0000	163.3133	45.9639	0.0000
KI= 712.5;	FE=036	0.0000	443.6581	293.0389	0.0000
KI= 715.6;	FE=037	0.0000	10.8505	0.0000	0.0000
KI= 725.8;	FE=039	0.0000	32.6950	35.7104	0.0000
KI= 731.0;	FE=041	0.0000	10.5384	0.0000	0.0000
KI= 753.9;	FE=048	0.0000	11.2396	0.0000	0.0000
KI= 758.8;	FE=050	41.8161	10945.0470	8815.8340	0.0000
KI= 765.3;	FE=052	0.0000	13.0387	0.0000	0.0000

TABLE 19 (cont'd)

KI= 768.8;	FE=054	0.0000	25.7720	29.6721	0.0000
KI= 772.4;	FE=056	0.0000	46.1458	0.0000	0.0000
KI= 786.9;	FE=062	0.0000	15.5575	24.7198	0.0000
KI= 794.4;	FE=064	0.0000	0.0000	34.3057	0.0000
$800-n-C8-ANE;	FE=066	0.0000	0.0000	19.5697	0.0000
KI= 818.2;	FE=074	0.0000	0.0000	21.8073	0.0000
KI= 824.2;	FE=076	0.0000	16.3195	23.6281	0.0000
KI= 828.1;	FE=078	0.0000	0.0000	14.1426	0.0000
KI= 834.4;	FE=079	93.2258	0.0000	16.0654	0.0000
KI= 854.4;	FE=088	0.0000	780.6505	450.4373	0.0000
KI= 862.2;	FE=091	69.6501	2705.4053	2109.7969	0.0000
KI= 884.5;	FE=102	45.9081	1369.7478	992.5985	0.0000
$900-n-C9-ANE;	FE=109	0.0000	9.2957	0.0000	0.0000
KI= 920.1;	FE=117	0.0000	0.0000	17.4434	0.0000
KI= 947.4;	FE=126	27.6918	89.9027	59.7816	0.0000
KI= 955.8;	FE=129	221.5521	452.9167	194.9168	0.0000
KI= 956.8;	FE=130	0.0000	0.0000	151.9605	0.0000
KI= 964.7;	FE=133	74.5394	0.0000	111.5365	0.0000
KI= 972.7;	FE=137	133.0578	179.1548	95.0400	0.0000
KI= 986.2;	FE=144	429.2892	786.0677	464.9995	0.0000
KI=1009.0;	FE=151	0.0000	29.6913	0.0000	0.0000
IMPURITY #3(KI=1010.3)		0.0000	0.0000	0.0000	0.0000
KI=1013.9;	FE=152	238.0606	345.0101	263.5059	0.0000
KI=1019.3;	FE=154	18.5503	0.0000	11.5467	0.0000
KI=1020.1;	FE=155	0.0000	0.0000	13.3599	0.0000
KI=1028.4;	FE=158	956.0095	149.2528	155.5286	0.0000
KI=1036.6;	FE=162	0.0000	11.5514	0.0000	0.0000
KI=1044.7;	FE=166	15.7542	0.0000	10.0547	0.0000
KI=1046.4;	FE=167	53.8562	28.0871	31.9889	0.0000
KI=1049.4;	FE=168	23.5800	0.0000	0.0000	0.0000
KI=1050.6;	FE=169	97.9064	0.0000	19.3901	0.0000
KI=1053.8;	FE=170	78.0853	35.9359	20.2373	0.0000
KI=1055.3;	FE=171	16.1954	0.0000	0.0000	0.0000
KI=1072.8;	FE=178	100.2561	94.3111	62.7517	0.0000
KI=1079.0;	FE=179	416.8555	83.0673	105.0003	0.0000
KI=1084.3;	FE=181	19.6746	10.4528	0.0000	0.0000
$1100-n-C11-ANE;	FE=187	66.7543	0.0000	15.0142	0.0000
KI=1108.4;	FE=191	42.6296	29.9238	11.4376	0.0000
KI=1112.6;	FE=193	81.9874	57.7121	21.4384	0.0000
KI=1132.7;	FE=201	419.6418	0.0000	55.0476	0.0000
KI=1139.7;	FE=205	767.9224	0.0000	116.4231	0.0000
KI=1141.0;	FE=206	96.6276	55.3700	18.1538	0.0000
KI=1144.0;	FE=207	22.4939	0.0000	0.0000	0.0000
KI=1148.3;	FE=208	613.0140	13.2387	152.6350	0.0000
KI=1170.4;	FE=217	322.9467	0.0000	78.1862	0.0000
KI=1181.4;	FE=221	103.1926	0.0000	14.7971	0.0000
KI=1185.3;	FE=222	58.9398	0.0000	15.1169	0.0000
KI=1191.5;	FE=224	80.1875	0.0000	25.9371	0.0000
KI=1203.4;	FE=228	55.3391	0.0000	0.0000	0.0000

TABLE 19 (concluded)

KI=1210.9;	FE=231	54.6315	0.0000	0.0000	0.0000
KI=1220.0;	FE=234	40.5643	0.0000	0.0000	0.0000
KI=1254.8;	FE=244	67.2097	0.0000	0.0000	0.0000
KI=1259.3;	FE=245	132.2727	0.0000	25.0911	0.0000
KI=1267.6;	FE=247	14.2255	0.0000	0.0000	0.0000
KI=1276.1;	FE=250	67.7841	0.0000	0.0000	0.0000
KI=1282.7;	FE=253	209.1458	166.7936	29.5914	0.0000
KI=1342.2;	FE=267	0.0000	12.5398	15.0822	0.0000
KI=1413.6;	FE=283	12.3335	0.0000	0.0000	0.0000
&ANTH-d10(IS)(KI=1772)		5673.9990	5673.9990	5088.0000	0.0000
$2118-(IMPURITY #8)		0.0000	0.0000	0.0000	0.0000
TOTAL CONCENTRATION		8305.0273	41067.5700	18448.0780	0.0000
CONC. NAMED PEAKS (ug/L)		7.694E+03	3.863E+04	1.839E+04	0.000E+00
TOTAL CONC(ug/L)		8.305E+03	4.107E+04	1.845E+04	0.000E+00
% CONC. NAMED VS. TOTAL		92.64548	94.06943	99.67595	0.00000
NO. OF NAMED PEAKS		47	57	60	0
TOTAL NO. OF PEAKS		72	100	69	0
% NAMED VS. TOTAL PEAKS		65.27779	57.00001	86.95653	0.00000

TABLE 20. COMPARISON OF SELECTED FEATURE CONCENTRATIONS MEASURED IN THE PRESENT STUDY AND REPORTED IN REFERENCE 2

COMPOUND	Fe#	Literature Solubility [ug/L(C)]	Present Results (ug/L)	Reference 2 Results (ug/L)	Reference 1 Neat fuel Concentration (mg/L)
Toluene	050	500,000(25)	9481	7790	9368
Ethylbenzene	088	140,000(15)	690	640	5059
o-Xylene	102	197,000(25)	1248	1170	4016
Napthalene	217	30,000(25)	410	310	4384

TABLE 21. REP6 OUTPUT OF A DATA BASE CONTAINING 5 ANALYSES OF THE 1000 PPM GAS STANDARD

STATISTICAL SUMMARY OF MH13 DATA BASE

CONSISTING OF 5 SAMPLES
CONCENTRATION (ppm-MF)

COMPOUND NAME	AVERAGE	RANGE	STANDARD DEVIATION	%REL STANDARD DEVIATION	NUMBER OF SAMPLES
$200-(KI= 200)M	9.71E+02	1.97E+02	8.55E+01	8.81E+00	5
$300-(KI= 300)M	8.71E+02	5.95E+02	2.40E+02	2.75E+01	5
$400-(KI= 400)M	9.62E+02	1.99E+02	8.86E+01	9.21E+00	5
$500-(KI= 500)M	9.52E+02	2.00E+02	8.95E+01	9.40E+00	5
$600-(KI= 600)M	9.70E+02	2.07E+02	9.35E+01	9.64E+00	5
TOTAL CONCENTRATION	4.73E+03	1.00E+03	4.85E+02	1.03E+01	5

TABLE 22. REP6 OUTPUT OF A DATA BASE CONTAINING 5 ANALYSES OF THE 100 PPM GAS STANDARD

STATISTICAL SUMMARY OF MH13 DATA BASE

CONSISTING OF 5 SAMPLES
CONCENTRATION (ppm-MF)

COMPOUND NAME	AVERAGE	RANGE	STANDARD DEVIATION	%REL STANDARD DEVIATION	NUMBER OF SAMPLES
$200-(KI= 200)M	1.27E+02	1.28E+01	4.86E+00	3.84E+00	5
$300-(KI= 300)M	1.04E+02	1.10E+01	4.09E+00	3.94E+00	5
$400-(KI= 400)M	1.02E+02	1.08E+01	4.01E+00	3.92E+00	5
$500-(KI= 500)M	1.01E+02	1.01E+01	3.76E+00	3.73E+00	5
#600-(KI= 600)M	1.12E+02	1.04E+01	4.31E+00	3.84E+00	5
TOTAL CONCENTRATION	5.48E+02	5.50E+01	2.09E+01	3.82E+00	5

TABLE 23. REP6 OUTPUT OF A DATA BASE CONTAINING 4 ANALYSES OF THE 10 PPM GAS STANDARD

STATISTICAL SUMMARY OF MH13 DATA BASE

CONSISTING OF 4 SAMPLES
CONCENTRATION (ppm-MF)

COMPOUND NAME	AVERAGE	RANGE	STANDARD DEVIATION	%REL STANDARD DEVIATION	NUMBER OF SAMPLES
$200-(KI= 200)M	1.46E+01	3.03E+00	1.51E+00	1.03E+01	4
$300-(KI= 300)M	1.16E+01	2.34E+00	1.20E+00	1.03E+01	4
$400-(KI= 400)M	1.15E+01	2.26E+00	1.12E+00	9.77E+00	4
$500-(KI= 500)M	1.10E+01	2.20E+00	1.17E+00	1.06E+01	4
#600-(KI= 600)M	9.92E+00	2.76E+00	1.36E+00	1.37E+01	4
TOTAL CONCENTRATION	5.87E+01	1.25E+01	6.34E+00	1.08E+01	4

TABLE 24. REP8 OUPUT OF A DATA BASE CONTAINING 5 ANALYSES OF THE 1000 PPM GAS STANDARD

CONCENTRATIONS OF NAMED COMPOUNDS IN SAMPLES
IN DATA BASE MH13
NUMBER OF SAMPLES= 5

COMPOUND NAME	SAMPLE NAME 1000PPM-01 (ppm-MF)	1000PPM-02 (ppm-MF)	1000PPM-05 (ppm-MF)	1000PPM-04 (ppm-MF)
PROCESSED FILE	DFP001	DFP002	DFP005	DFP004
$200-(KI= 200)M	969.7437	1066.2791	869.4988	904.1750
$300-(KI= 300)M	472.0792	1067.2717	867.4943	900.4324
$400-(KI= 400)M	977.1703	1054.2488	855.7303	887.0103
$500-(KI= 500)M	968.8491	1043.7712	843.7003	875.8318
$600-(KI= 600)M	989.2050	1062.9360	856.2386	889.2183
TOTAL CONCENTRATION	4384.1182	5301.2539	4299.5430	4462.4473
CONC. NAMED PEAKS (ppm-MF)	4.377E+03	5.295E+03	4.293E+03	4.457E+03
TOTAL CONC(ppm-MF)	4.384E+03	5.301E+03	4.300E+03	4.462E+03
% CONC. NAMED VS. TOTAL	99.83873	99.87274	99.83997	99.87050
NO. OF NAMED PEAKS	5	5	5	5
TOTAL NO. OF PEAKS	10	8	10	8
% NAMED VS. TOTAL PEAKS	50.00000	62.50000	50.00000	62.50000

TABLE 24 (concluded)

CONCENTRATIONS OF NAMED COMPOUNDS IN SAMPLES
IN DATA BASE MH13
NUMBER OF SAMPLES= 5

COMPOUND NAME	SAMPLE NAME: 1000PPM-03	( )	( )	( )
	(ppm-MF)			
PROCESSED FILE	DFP003			
$200-(KI= 200)M	1044.4741	0.0000	0.0000	0.0000
$300-(KI= 300)M	1049.3860	0.0000	0.0000	0.0000
$400-(KI= 400)M	1038.0115	0.0000	0.0000	0.0000
$500-(KI= 500)M	1028.2979	0.0000	0.0000	0.0000
$600-(KI= 600)M	1050.6345	0.0000	0.0000	0.0000
TOTAL CONCENTRATION	5219.0820	0.0000	0.0000	0.0000
CONC. NAMED PEAKS (ppm-MF)	5.211E+03	0.000E+00	0.000E+00	0.000E+00
TOTAL CONC(ppm-MF)	5.219E+03	0.000E+00	0.000E+00	0.000E+00
% CONC. NAMED VS. TOTAL	99.84140	0.00000	0.00000	0.00000
NO. OF NAMED PEAKS	5	0	0	0
TOTAL NO. OF PEAKS	9	0	0	0
% NAMED VS. TOTAL PEAKS	55.55556	0.00000	0.00000	0.00000

TABLE 25. REP6 OUTPUT OF A DATA BASE CONTAINING 7 VAPOR PHASE FEATURE ANALYSES OF THE REFERNECE JP-4 FUEL IN UNITS OF PPM-MF

STATISTICAL SUMMARY OF MH12 DATA BASE

CONSISTING OF 7 SAMPLES
CONCENTRATION (ppm-MF)

COMPOUND NAME		AVERAGE	RANGE	STANDARD DEVIATION	%REL STANDARD DEVIATION	NUMBER OF SAMPLES
AIR PEAK(KI=104.8)		3.70E-01				1
$200-n-C2-ANE;	FE=341	4.34E+01	9.88E+00	3.24E+00	7.48E+00	6
$300-n-C3-ANE;	FE=001	2.51E+03	2.92E+03	1.13E+03	4.49E+01	7
KI= 388.0;	FE=002	2.73E+03	2.94E+03	1.08E+03	3.94E+01	7
$400-n-C4-ANE;	FE=003	9.75E+03	5.94E+03	1.98E+03	2.03E+01	7
KI= 409.5;	FE=299	1.68E+02	2.85E+01	1.03E+01	6.10E+00	7
KI= 417.0;	FE=300	1.27E+02	2.66E+01	1.00E+01	7.86E+00	7
KI= 441.5;	FE=301	3.54E+01	8.00E+00	2.99E+00	8.45E+00	7
KI= 457.6;	FE=004	1.04E+04	8.65E+03	2.96E+03	2.85E+01	7
KI= 483.0;	FE=302	9.16E+01	1.87E+01	7.05E+00	7.70E+00	7
$500-n-C5-ANE;	FE=005	7.31E+03	1.29E+04	5.53E+03	7.57E+01	7
KI= 504.9;	FE=303	3.62E+00	1.06E+00	3.49E-01	9.64E+00	6
KI= 506.0;	FE=006	2.21E+02	3.81E+01	1.53E+01	6.92E+00	6
KI= 506.9;	FE=304	5.30E+01	2.51E+02	1.12E+02	2.12E+02	5
KI= 508.8;	FE=305	4.42E+00	6.57E-01	2.60E-01	5.89E+00	6
KI= 509.9;	FE=007	9.92E+01	1.20E+02	4.25E+01	4.29E+01	7
KI= 512.7;	FE=008	2.96E+02	5.70E+01	2.14E+01	7.23E+00	7
KI= 518.5;	FE=009	6.70E+02	1.23E+02	4.82E+01	7.19E+00	7
KI= 524.1;	FE=306	4.43E+00	1.11E+00	3.52E-01	7.96E+00	7
KI= 527.5;	FE=307	2.23E+00	4.37E-01	1.61E-01	7.20E+00	7
KI= 536.7;	FE=308	3.57E+01	7.22E+00	2.69E+00	7.54E+00	7
KI= 541.9;	FE=309	1.93E+01	1.24E+01	5.10E+00	2.65E+01	7
KI= 542.9;	FE=310	9.71E+00	8.26E+00	3.13E+00	3.23E+01	5
KI= 549.7;	FE=010	1.05E+03	2.30E+02	8.50E+01	8.06E+00	7
KI= 552.4;	FE=011	1.06E+03	1.84E+02	7.10E+01	6.71E+00	7
KI= 559.3;	FE=311	7.91E+02	5.47E+03	2.07E+03	2.61E+02	7
KI= 560.4;	FE=012	4.39E+03	6.41E+03	2.95E+03	6.72E+01	4
KI= 564.2;	FE=312	2.59E+01	5.57E+00	2.06E+00	7.96E+00	7
KI= 577.3;	FE=013	3.62E+03	6.70E+02	2.73E+02	7.55E+00	7
KI= 588.0;	FE=313	3.75E+01	9.13E+00	3.26E+00	8.67E+00	7
KI= 589.7;	FE=314	2.35E+01	4.43E+00	1.66E+00	7.07E+00	7
#600-n-C6-ANE;	FE=014	7.01E+03	1.31E+03	5.56E+02	7.93E+00	7
KI= 604.1;	FE=315	1.17E+01	2.39E+00	9.03E-01	7.75E+00	7
KI= 609.2;	FE=015	4.75E+01	9.40E+00	3.73E+00	7.85E+00	7
KI= 611.2;	FE=016	5.31E+01	1.07E+01	4.24E+00	7.99E+00	7
KI= 613.9;	FE=017	8.84E+01	1.79E+01	7.17E+00	8.12E+00	7
KI= 619.4;	FE=316	2.68E+01	5.64E+00	2.24E+00	8.33E+00	7
KI= 624.8;	FE=018	3.12E+03	6.44E+02	2.71E+02	8.66E+00	7
KI= 627.3;	FE=019	4.40E+01	8.96E+00	3.52E+00	8.00E+00	7
KI= 632.4;	FE=020	4.71E+02	1.09E+02	4.51E+01	9.58E+00	7

TABLE 25 (cont'd)

KI= 635.5;	FE=317	1.09E+01	2.27E+00	9.57E-01	8.81E+00	7
KI= 642.4;	FE=318	2.41E+00	2.82E+00	9.69E-01	4.02E+01	7
KI= 647.6;	FE=320	2.45E+00	5.69E-01	1.99E-01	8.12E+00	7
KI= 651.0;	FE=321	3.46E+00	5.91E-01	2.31E-01	6.69E+00	5
KI= 653.0;	FE=021	2.26E+02	5.42E+01	2.29E+01	1.01E+01	7
KI= 656.1;	FE=022	2.18E+03	5.75E+02	2.19E+02	1.00E+01	7
KI= 658.8;	FE=023	1.22E+03	2.36E+02	1.03E+02	8.46E+00	7
KI= 663.0;	FE=322	7.10E+00	1.60E+00	7.03E-01	9.91E+00	7
KI= 666.0;	FE=323	1.70E+00	9.03E-01	3.22E-01	1.89E+01	7
KI= 669.0;	FE=024	8.78E+02	3.17E+02	1.09E+02	1.24E+01	7
KI= 670.4;	FE=025	2.18E+03	6.90E+02	2.51E+02	1.15E+01	7
KI= 671.9;	FE=324	2.49E+00	1.28E+00	5.65E-01	2.26E+01	7
KI= 673.9;	FE=325	7.91E+00	3.02E+00	1.40E+00	1.77E+01	7
KI= 674.8;	FE=326	7.64E+00	2.56E+00	1.00E+00	1.31E+01	7
KI= 677.4;	FE=026	2.38E+03	8.44E+02	2.94E+02	1.23E+01	7
KI= 679.8;	FE=027	4.43E+02	1.47E+02	5.28E+01	1.19E+01	7
KI= 682.0;	FE=028	4.08E+02	1.40E+02	4.96E+01	1.22E+01	7
KI= 684.6;	FE=029	7.36E+02	2.79E+02	9.66E+01	1.31E+01	7
KI= 685.8;	FE=030	1.88E+02	5.59E+01	2.02E+01	1.08E+01	7
KI= 689.6;	FE=327	1.22E+01	4.00E+00	1.48E+00	1.21E+01	7
KI= 692.2;	FE=328	1.11E+01	3.70E+00	1.37E+00	1.23E+01	7
KI= 696.2;	FE=329	6.23E+00	2.11E+00	7.76E-01	1.25E+01	7
$700-n-C7-ANE;	FE=031	3.12E+03	1.32E+03	4.39E+02	1.41E+01	7
KI= 701.8;	FE=032	1.43E+01	3.71E+00	1.39E+00	9.74E+00	7
KI= 702.6;	FE=330	4.91E+00	1.69E+00	6.11E-01	1.24E+01	7
KI= 705.0;	FE=033	1.56E+01	5.93E+00	2.12E+00	1.36E+01	7
KI= 706.7;	FE=034	1.54E+01	9.23E+00	2.97E+00	1.94E+01	7
KI= 708.0;	FE=035	1.86E+01	4.24E+00	1.79E+00	9.63E+00	7
KI= 712.5;	FE=036	1.90E+03	8.89E+02	2.87E+02	1.51E+01	7
KI= 715.6;	FE=037	1.50E+02	7.24E+01	2.34E+01	1.56E+01	7
KI= 719.1;	FE=038	9.52E+01	4.88E+01	1.56E+01	1.64E+01	7
KI= 725.8;	FE=039	1.59E+02	7.88E+01	2.53E+01	1.59E+01	7
KI= 730.0;	FE=040	1.92E+02	1.05E+02	3.30E+01	1.72E+01	7
KI= 731.0;	FE=041	3.27E+02	1.89E+02	5.99E+01	1.83E+01	7
KI= 733.6;	FE=042	1.32E+02	7.44E+01	2.32E+01	1.76E+01	7
KI= 735.0;	FE=043	1.08E+02	6.45E+01	2.00E+01	1.85E+01	7
KI= 741.2;	FE=044	1.20E+02	7.18E+01	2.22E+01	1.85E+01	7
KI= 743.3;	FE=045	3.43E+01	2.22E+01	6.81E+00	1.99E+01	7
KI= 745.4;	FE=046	2.84E+01	1.92E+01	5.87E+00	2.06E+01	7
KI= 745.7;	FE=331	3.52E+00	3.01E+00	1.01E+00	2.87E+01	7
KI= 749.9;	FE=047	1.13E+01	1.09E+01	3.98E+00	3.53E+01	7
KI= 751.4;	FE=332	3.03E+00	1.79E+00	5.54E-01	1.83E+01	7
KI= 753.9;	FE=048	3.89E+01	2.20E+01	6.89E+00	1.77E+01	7
KI= 754.5;	FE=333	4.10E+00	1.75E+00	6.46E-01	1.58E+01	6
KI= 757.1;	FE=049	2.56E+02	1.78E+02	5.36E+01	2.09E+01	7
KI= 758.8;	FE=050	7.71E+02	3.90E+02	1.23E+02	1.60E+01	7
KI= 762.0;	FE=051	2.11E+01	1.40E+01	4.24E+00	2.01E+01	7
KI= 765.3;	FE=052	9.40E+02	7.22E+02	2.15E+02	2.29E+01	7
KI= 766.4;	FE=053	3.41E+02	2.32E+02	6.94E+01	2.03E+01	7

TABLE 25 (cont'd)

KI= 768.8;	FE=054	2.40E+02	1.87E+02	5.58E+01	2.33E+01	7
KI= 770.6;	FE=055	1.26E+02	9.76E+01	2.90E+01	2.30E+01	7
KI= 772.4;	FE=056	9.84E+02	7.65E+02	2.27E+02	2.31E+01	7
KI= 775.2;	FE=057	4.46E+01	3.35E+01	1.01E+01	2.26E+01	7
KI= 778.1;	FE=334	7.15E-01	3.30E-01	1.21E-01	1.69E+01	6
KI= 781.0;	FE=058	5.02E+01	4.07E+01	1.21E+01	2.41E+01	7
KI= 783.2;	FE=059	2.89E+01	2.33E+01	6.93E+00	2.40E+01	7
KI= 784.4;	FE=060	5.87E+01	4.79E+01	1.42E+01	2.42E+01	7
KI= 785.4;	FE=061	6.90E+00	6.31E+00	1.88E+00	2.72E+01	7
KI= 786.9;	FE=062	1.11E+02	9.29E+01	2.76E+01	2.49E+01	7
KI= 788.8;	FE=335	1.31E+00	6.96E-01	2.50E-01	1.91E+01	6
KI= 791.1;	FE=063	3.79E+00	3.07E+00	9.23E-01	2.43E+01	7
KI= 794.4;	FE=064	2.46E+01	2.23E+01	6.65E+00	2.70E+01	7
KI= 795.7;	FE=065	6.01E+01	5.32E+01	1.58E+01	2.63E+01	7
#800-n-C8-ANE;	FE=066	8.48E+02	7.80E+02	2.29E+02	2.70E+01	7
KI= 801.7;	FE=336	6.68E+00	4.06E+00	1.41E+00	2.11E+01	7
KI= 802.5;	FE=067	3.84E+00	2.39E+00	8.84E-01	2.30E+01	6
KI= 805.7;	FE=068	4.26E+00	6.38E+00	2.31E+00	5.43E+01	5
KI= 807.1;	FE=069	8.37E+00	7.75E+00	2.57E+00	3.07E+01	7
KI= 808.9;	FE=070	2.92E+00	2.78E+00	8.51E-01	2.92E+01	7
KI= 812.3;	FE=071	1.50E+01	1.59E+01	4.73E+00	3.15E+01	7
KI= 813.6;	FE=072	8.42E+00	8.32E+00	2.47E+00	2.94E+01	7
KI= 817.0;	FE=073	2.09E+01	2.33E+01	6.97E+00	3.33E+01	7
KI= 818.2;	FE=074	2.47E+01	2.60E+01	7.75E+00	3.14E+01	7
KI= 821.3;	FE=075	5.07E+01	5.82E+01	1.74E+01	3.43E+01	7
KI= 823.0;	FE=337	5.12E+00	3.83E+00	1.49E+00	2.91E+01	6
KI= 824.2;	FE=076	9.98E+01	1.06E+02	3.17E+01	3.18E+01	7
KI= 825.7;	FE=077	2.58E+01	2.83E+01	8.46E+00	3.28E+01	7
KI= 828.1;	FE=078	1.16E+02	1.38E+02	4.14E+01	3.58E+01	7
KI= 829.3;	FE=338	7.59E+00	8.55E+00	2.59E+00	3.41E+01	7
KI= 834.4;	FE=079	1.30E+02	1.54E+02	4.64E+01	3.57E+01	7
KI= 837.0;	FE=080	5.28E+00	6.40E+00	1.97E+00	3.72E+01	7
KI= 840.8;	FE=081	4.06E+00	5.08E+00	1.53E+00	3.77E+01	7
KI= 842.7;	FE=082	3.76E+01	4.89E+01	1.48E+01	3.95E+01	7
KI= 844.2;	FE=083	1.03E+01	1.36E+01	4.10E+00	3.98E+01	7
KI= 846.2;	FE=084	4.39E+00	6.40E+00	1.89E+00	4.30E+01	7
KI= 848.2;	FE=085	2.13E+00	3.13E+00	9.20E-01	4.33E+01	7
KI= 850.9;	FE=086	3.17E+00	4.18E+00	1.53E+00	4.82E+01	7
KI= 852.8;	FE=087	1.32E+01				1
KI= 854.4;	FE=088	1.01E+02	1.34E+02	3.96E+01	3.94E+01	7
KI= 856.1;	FE=089	1.85E+01	2.57E+01	7.91E+00	4.27E+01	7
KI= 860.0;	FE=090	1.58E+01	2.28E+01	7.03E+00	4.45E+01	7
KI= 863.8;	FE=092	2.64E+02	2.69E+02	8.77E+01	3.32E+01	7
KI= 865.0;	FE=093	7.99E+01	7.37E+01	3.05E+01	3.82E+01	5
KI= 867.4;	FE=094	5.27E+00	7.90E+00	2.44E+00	4.63E+01	7
KI= 869.5;	FE=095	1.72E+01	2.61E+01	8.09E+00	4.69E+01	7
KI= 871.2;	FE=096	8.65E+01	1.27E+02	3.93E+01	4.55E+01	7
KI= 873.1;	FE=097	4.46E+00	7.55E+00	2.36E+00	5.29E+01	7
KI= 877.1;	FE=098	3.99E+00	6.67E+00	2.12E+00	5.32E+01	7

TABLE 25 (cont'd)

KI= 880.0;	FE=099	3.36E+01	5.20E+01	1.63E+01	4.84E+01	7
KI= 881.6;	FE=100	1.38E+01	2.24E+01	7.03E+00	5.11E+01	7
KI= 884.5;	FE=102	5.90E+01	7.30E+01	2.21E+01	3.74E+01	7
KI= 887.4;	FE=103	4.18E+00				1
KI= 890.9;	FE=104	2.69E+00	5.10E+00	1.63E+00	6.08E+01	7
KI= 892.6;	FE=105	1.17E+00	2.47E+00	9.84E-01	8.42E+01	6
KI= 894.6;	FE=106	2.21E+00	6.59E+00	2.62E+00	1.18E+02	6
KI= 895.9;	FE=107	2.16E+00	6.82E+00	2.72E+00	1.26E+02	6
KI= 897.6;	FE=108	6.58E+00	1.28E+01	4.19E+00	6.36E+01	7
$900-n-C9-ANE;	FE=109	1.19E+02	1.87E+02	5.88E+01	4.92E+01	7
KI= 901.3;	FE=110	2.05E+00	2.28E+00	1.09E+00	5.34E+01	4
KI= 908.4;	FE=112	1.25E+01	2.36E+01	7.72E+00	6.20E+01	7
KI= 910.8;	FE=113	4.44E+00	1.02E+01	3.41E+00	7.67E+01	7
KI= 913.9;	FE=114	2.86E+00	9.27E+00	3.69E+00	1.29E+02	6
KI= 917.7;	FE=116	6.84E+00	1.88E+01	6.53E+00	9.56E+01	7
KI= 920.1;	FE=117	9.20E+00	1.80E+01	5.93E+00	6.45E+01	7
KI= 922.6;	FE=118	1.45E+01	2.72E+01	8.89E+00	6.13E+01	7
KI= 924.7;	FE=119	6.47E+00	1.27E+01	4.16E+00	6.43E+01	7
KI= 929.1;	FE=120	9.37E+00	1.85E+01	6.31E+00	6.74E+01	7
KI= 933.5;	FE=122	1.91E+01	3.65E+01	1.20E+01	6.26E+01	7
KI= 939.4;	FE=123	9.97E+00	2.40E+01	7.79E+00	7.82E+01	7
KI= 945.3;	FE=125	7.17E+00	1.42E+01	4.76E+00	6.63E+01	7
KI= 947.4;	FE=126	7.85E+00	1.28E+01	4.14E+00	5.27E+01	7
KI= 952.0;	FE=127	2.85E+00	7.87E+00	2.81E+00	9.87E+01	7
KI= 953.5;	FE=128	5.15E+00	1.25E+01	4.43E+00	8.60E+01	7
KI= 955.6;	FE=339	2.14E+00	5.90E+00	2.11E+00	9.87E+01	7
KI= 955.8;	FE=129	2.74E+01	4.70E+01	1.57E+01	5.72E+01	7
KI= 960.5;	FE=131	2.58E+00	6.52E+00	2.45E+00	9.51E+01	6
KI= 962.1;	FE=132	7.85E+00	1.72E+01	6.03E+00	7.68E+01	7
KI= 964.7;	FE=133	1.21E+01	2.32E+01	7.15E+00	5.92E+01	7
KI= 966.1;	FE=134	1.18E+01	8.51E+00	4.72E+00	4.01E+01	3
KI= 967.4;	FE=135	6.50E+00	1.18E+01	4.95E+00	7.61E+01	4
KI= 970.8;	FE=136	7.12E+00	1.23E+01	4.27E+00	5.99E+01	7
KI= 976.9;	FE=139	7.63E+00	1.23E+01	4.22E+00	5.53E+01	7
KI= 979.2;	FE=140	4.31E+00	8.50E+00	2.97E+00	6.89E+01	7
KI= 981.7;	FE=142	2.86E+00	7.69E+00	2.92E+00	1.02E+02	6
KI= 983.3;	FE=143	1.08E+00	1.74E+00	9.57E-01	8.83E+01	3
KI= 986.2;	FE=144	3.20E+01	4.40E+01	1.54E+01	4.80E+01	7
KI= 993.5;	FE=146	2.18E+00	1.93E+00	1.36E+00	6.24E+01	2
KI= 995.3;	FE=147	9.59E-01				1
KI= 996.8;	FE=148	6.15E-01				1
$1000-n-C10-ANE;	FE=149	2.73E+01	3.70E+01	1.35E+01	4.93E+01	7
KI=1003.9;	FE=150	2.81E+00	2.34E+00	1.26E+00	4.48E+01	3
KI=1009.0;	FE=151	1.67E+00	1.95E+00	6.72E-01	4.02E+01	7
KI=1013.9;	FE=152	1.03E+01	1.70E+01	5.83E+00	5.63E+01	7
KI=1017.0;	FE=153	2.58E+00				1
KI=1019.3;	FE=154	1.56E+00	3.40E+00	1.61E+00	1.04E+02	4
KI=1020.1;	FE=155	1.78E+00	3.54E+00	1.49E+00	8.40E+01	5
KI=1022.9;	FE=156	5.20E+00	8.15E+00	2.88E+00	5.54E+01	7

TABLE 25 (concluded)

KI=1025.8;	FE=157	3.42E+00	5.73E+00	2.06E+00	6.01E+01	7
KI=1028.4;	FE=158	4.37E+00	4.14E+00	1.70E+00	3.88E+01	5
KI=1031.6;	FE=159	1.60E+00	1.02E+00	4.24E-01	2.65E+01	5
KI=1034.6;	FE=161	1.07E+00	2.23E-01	1.58E-01	1.48E+01	2
KI=1038.5;	FE=163	1.23E+00	6.29E-01	2.87E-01	2.33E+01	5
KI=1043.2;	FE=165	3.03E+00	3.66E+00	1.38E+00	4.56E+01	7
KI=1046.4;	FE=167	6.25E+00	9.26E+00	3.62E+00	5.78E+01	7
KI=1049.4;	FE=168	7.92E-01	4.22E-01	2.15E-01	2.72E+01	3
KI=1050.6;	FE=169	3.28E+00	3.75E+00	2.02E+00	6.16E+01	3
KI=1053.8;	FE=170	3.10E+00	3.97E+00	1.61E+00	5.18E+01	7
KI=1057.9;	FE=173	2.63E+00	2.32E+00	1.01E+00	3.83E+01	5
KI=1060.8;	FE=174	9.75E-01	1.13E+00	4.72E-01	4.84E+01	5
KI=1062.6;	FE=340	1.32E+00	2.57E+00	1.08E+00	8.21E+01	5
KI=1064.6;	FE=175	3.27E+00	3.22E+00	1.29E+00	3.93E+01	5
KI=1070.6;	FE=177	3.11E+00	1.68E+00	6.15E-01	1.98E+01	5
KI=1072.8;	FE=178	1.07E+00	4.39E-01	1.73E-01	1.61E+01	5
KI=1079.0;	FE=179	7.99E+00	3.54E+00	1.28E+00	1.60E+01	5
KI=1087.2;	FE=182	1.25E+00	7.55E-01	3.96E-01	3.17E+01	3
$1100-n-C11-ANE;	FE=187	1.70E+01	2.28E+01	8.59E+00	5.04E+01	7
KI=1104.4;	FE=189	6.12E-01				1
KI=1108.4;	FE=191	2.21E+00	1.03E+00	4.29E-01	1.94E+01	4
KI=1112.6;	FE=193	2.74E+00	1.19E+00	5.19E-01	1.89E+01	4
KI=1115.8;	FE=194	1.48E+00	5.44E-01	2.58E-01	1.74E+01	4
KI=1127.0;	FE=199	8.25E-01	6.73E-01	3.50E-01	4.24E+01	3
KI=1129.4;	FE=200	1.89E+00	7.17E-01	3.36E-01	1.78E+01	4
KI=1133.7;	FE=202	4.29E-01				1
KI=1139.7;	FE=205	1.93E+00	1.08E+00	5.07E-01	2.63E+01	4
KI=1141.0;	FE=206	1.80E+00	8.59E-01	3.57E-01	1.98E+01	4
KI=1144.0;	FE=207	1.47E+00	6.13E-02	4.33E-02	2.94E+00	2
KI=1148.3;	FE=208	2.03E+00	8.12E-01	5.74E-01	2.83E+01	2
KI=1149.8;	FE=209	2.73E+00				1
KI=1156.1;	FE=212	8.15E-01	3.48E-01	1.51E-01	1.86E+01	4
KI=1158.0;	FE=213	1.20E+00				1
KI=1159.8;	FE=214	2.03E+00	2.63E+00	1.12E+00	5.53E+01	4
KI=1164.2;	FE=216	2.15E+00	1.99E+00	1.01E+00	4.70E+01	3
KI=1170.4;	FE=217	2.48E+00	2.08E+00	8.09E-01	3.26E+01	5
KI=1171.4;	FE=218	4.76E-01				1
KI=1175.9;	FE=219	1.73E+00				1
KI=1185.3;	FE=222	2.52E+00				1
$1200-n-C12-ANE;	FE=227	6.30E+00	9.66E+00	3.45E+00	5.47E+01	7
KI=1214.2;	FE=232	1.38E+00	1.66E+00	7.06E-01	5.12E+01	4
KI=1218.2;	FE=233	1.75E+00				1
KI=1233.9;	FE=238	1.25E+00				1
KI=1282.7;	FE=253	2.04E+00	1.91E+00	8.17E-01	4.01E+01	4
$1300-n-C13-ANE;	FE=257	4.90E+00	9.81E+00	4.97E+00	1.02E+02	5
TOTAL CONCENTRATION		8.14E+04	2.40E+04	8.69E+03	1.07E+01	7

TABLE 26. REP6 OUTPUT OF A DATA BASE CONTAINING 7 VAPOR PHASE FEATURE ANALYSES OF THE REFERNECE JP-4 FUEL OF %REL (RELATIVE TO THE VAPOR PHASE ANALYSIS OF THE REFERENCE JP-4 FUEL)

STATISTICAL SUMMARY OF MH12 DATA BASE

CONSISTING OF 7 SAMPLES
CONCENTRATION (% REL.)

COMPOUND NAME		AVERAGE	RANGE	STANDARD DEVIATION	%REL STANDARD DEVIATION	NUMBER OF SAMPLES
AIR PEAK(KI=104.8)		1.43E+01				1
$200-n-C2-ANE;	FE=341	9.55E+01	2.18E+01	7.15E+00	7.48E+00	6
$300-n-C3-ANE;	FE=001	1.20E+02	1.40E+02	5.38E+01	4.49E+01	7
KI= 388.0;	FE=002	1.34E+02	1.44E+02	5.27E+01	3.94E+01	7
$400-n-C4-ANE;	FE=003	1.05E+02	6.42E+01	2.14E+01	2.03E+01	7
KI= 409.5;	FE=299	9.79E+01	1.66E+01	5.97E+00	6.10E+00	7
KI= 417.0;	FE=300	9.81E+01	2.05E+01	7.71E+00	7.86E+00	7
KI= 441.5;	FE=301	9.76E+01	2.20E+01	9.00E+00	9.22E+00	6
KI= 457.6;	FE=004	1.15E+02	9.62E+01	3.29E+01	2.85E+01	7
KI= 483.0;	FE=302	9.83E+01	2.01E+01	7.57E+00	7.70E+00	7
$500-n-C5-ANE;	FE=005	1.51E+02	2.66E+02	1.14E+02	7.57E+01	7
KI= 504.9;	FE=303	9.66E+01	2.82E+01	9.31E+00	9.64E+00	6
KI= 506.0;	FE=006	9.79E+01	1.69E+01	6.78E+00	6.92E+00	6
KI= 506.9;	FE=304	1.09E+03	5.19E+03	2.32E+03	2.12E+02	5
KI= 508.8;	FE=305	9.71E+01	1.44E+01	5.72E+00	5.89E+00	6
KI= 509.9;	FE=007	7.67E+02	9.29E+02	3.29E+02	4.29E+01	7
KI= 512.7;	FE=008	9.77E+01	1.88E+01	7.06E+00	7.23E+00	7
KI= 518.5;	FE=009	9.79E+01	1.80E+01	7.03E+00	7.19E+00	7
KI= 524.1;	FE=306	9.83E+01	2.46E+01	7.82E+00	7.96E+00	7
KI= 527.5;	FE=307	9.76E+01	1.91E+01	7.03E+00	7.20E+00	7
KI= 536.7;	FE=308	9.77E+01	1.98E+01	7.36E+00	7.54E+00	7
KI= 541.9;	FE=309	9.91E+01	6.36E+01	2.62E+01	2.65E+01	7
KI= 542.9;	FE=310	1.07E+02	9.06E+01	3.44E+01	3.23E+01	5
KI= 549.7;	FE=010	9.76E+01	2.12E+01	7.86E+00	8.06E+00	7
KI= 552.4;	FE=011	8.00E+01	1.39E+01	5.37E+00	6.71E+00	7
KI= 560.4;	FE=012	8.31E+01	1.35E+02	4.80E+01	5.78E+01	6
KI= 559.3;	FE=311	7.98E+03	5.52E+04	2.09E+04	2.61E+02	7
KI= 564.2;	FE=312	9.76E+01	2.10E+01	7.77E+00	7.96E+00	7
KI= 577.3;	FE=013	9.82E+01	1.82E+01	7.41E+00	7.55E+00	7
KI= 588.0;	FE=313	9.74E+01	2.37E+01	8.44E+00	8.67E+00	7
KI= 589.7;	FE=314	9.84E+01	1.85E+01	6.96E+00	7.07E+00	7
#600-n-C6-ANE;	FE=014	9.84E+01	1.83E+01	7.81E+00	7.93E+00	7
KI= 604.1;	FE=315	9.80E+01	2.03E+01	1.03E+01	1.05E+01	3
KI= 609.2;	FE=015	1.00E+02	2.88E+01	1.03E+01	1.03E+01	7
KI= 611.2;	FE=016	9.79E+01	2.01E+01	1.04E+01	1.06E+01	3
KI= 613.9;	FE=017	9.79E+01	2.02E+01	1.05E+01	1.07E+01	3
KI= 619.4;	FE=316	9.78E+01	2.08E+01	1.09E+01	1.12E+01	3
KI= 624.8;	FE=018	1.26E+03	3.18E+03	1.53E+03	1.21E+02	7

TABLE 26 (cont'd)

KI= 627.3;	FE=019	9.78E+01	2.01E+01	1.06E+01	1.09E+01	3
KI= 632.4;	FE=020	9.74E+01	1.98E+01	8.24E+00	8.46E+00	5
KI= 635.5;	FE=317	9.61E+01	2.08E+01	9.71E+00	1.01E+01	4
KI= 642.4;	FE=318	1.07E+02	1.21E+02	4.97E+01	4.63E+01	5
KI= 647.6;	FE=320	9.73E+01	2.31E+01	8.67E+00	8.91E+00	5
KI= 651.0;	FE=321	1.80E+03	5.24E+03	2.68E+03	1.49E+02	6
KI= 653.0;	FE=021	9.66E+01	2.42E+01	1.09E+01	1.13E+01	4
KI= 656.1;	FE=022	9.89E+01	2.61E+01	9.91E+00	1.00E+01	7
KI= 658.8;	FE=023	9.86E+01	1.90E+01	8.33E+00	8.46E+00	7
KI= 663.0;	FE=322	3.06E+02	3.84E+02	1.31E+02	4.28E+01	7
KI= 666.0;	FE=323	1.00E+02	5.31E+01	1.89E+01	1.89E+01	7
KI= 669.0;	FE=024	9.98E+01	3.61E+01	1.24E+01	1.24E+01	7
KI= 670.4;	FE=025	9.91E+01	3.14E+01	1.14E+01	1.15E+01	7
KI= 671.9;	FE=324	1.01E+02	5.20E+01	2.30E+01	2.26E+01	7
KI= 673.9;	FE=325	9.80E+01	3.74E+01	1.74E+01	1.77E+01	7
KI= 674.8;	FE=326	9.84E+01	3.30E+01	1.29E+01	1.31E+01	7
KI= 677.4;	FE=026	9.95E+01	3.53E+01	1.23E+01	1.23E+01	7
KI= 679.8;	FE=027	9.93E+01	3.30E+01	1.18E+01	1.19E+01	7
KI= 682.0;	FE=028	9.93E+01	3.40E+01	1.21E+01	1.22E+01	7
KI= 684.6;	FE=029	9.96E+01	3.78E+01	1.31E+01	1.31E+01	7
KI= 685.8;	FE=030	9.90E+01	2.95E+01	1.06E+01	1.08E+01	7
KI= 689.6;	FE=327	9.89E+01	3.24E+01	1.20E+01	1.21E+01	7
KI= 692.2;	FE=328	9.90E+01	3.31E+01	1.22E+01	1.23E+01	7
KI= 696.2;	FE=329	9.90E+01	3.35E+01	1.23E+01	1.25E+01	7
$700-n-C7-ANE;	FE=031	1.00E+02	4.25E+01	1.41E+01	1.41E+01	7
KI= 701.8;	FE=032	9.92E+01	2.57E+01	9.66E+00	9.74E+00	7
KI= 702.6;	FE=330	9.91E+01	3.41E+01	1.23E+01	1.24E+01	7
KI= 705.0;	FE=033	9.93E+01	3.78E+01	1.35E+01	1.36E+01	7
KI= 706.7;	FE=034	1.02E+02	6.11E+01	1.97E+01	1.94E+01	7
KI= 708.0;	FE=035	9.85E+01	2.24E+01	9.49E+00	9.63E+00	7
KI= 712.5;	FE=036	1.01E+02	4.71E+01	1.52E+01	1.51E+01	7
KI= 715.6;	FE=037	1.00E+02	4.84E+01	1.57E+01	1.56E+01	7
KI= 719.1;	FE=038	1.01E+02	5.14E+01	1.65E+01	1.64E+01	7
KI= 725.8;	FE=039	1.01E+02	4.97E+01	1.60E+01	1.59E+01	7
KI= 730.0;	FE=040	1.02E+02	5.57E+01	1.75E+01	1.72E+01	7
KI= 731.0;	FE=041	1.01E+02	5.84E+01	1.85E+01	1.83E+01	7
KI= 733.6;	FE=042	1.01E+02	5.70E+01	1.78E+01	1.76E+01	7
KI= 735.0;	FE=043	1.01E+02	6.05E+01	1.88E+01	1.85E+01	7
KI= 741.2;	FE=044	1.02E+02	6.07E+01	1.88E+01	1.85E+01	7
KI= 743.3;	FE=045	1.02E+02	6.59E+01	2.02E+01	1.99E+01	7
KI= 745.4;	FE=046	1.02E+02	6.90E+01	2.11E+01	2.06E+01	7
KI= 745.7;	FE=331	1.06E+02	9.07E+01	3.05E+01	2.87E+01	7
KI= 749.9;	FE=047	1.09E+02	1.06E+02	3.84E+01	3.53E+01	7
KI= 751.4;	FE=332	1.02E+02	6.01E+01	1.86E+01	1.83E+01	7
KI= 753.9;	FE=048	1.01E+02	5.70E+01	1.79E+01	1.77E+01	7
KI= 754.5;	FE=333	8.59E+01	3.68E+01	1.35E+01	1.58E+0.	6
KI= 757.1;	FE=049	1.03E+02	7.13E+01	2.15E+01	2.09E+01	7
KI= 758.8;	FE=050	1.01E+02	5.13E+01	1.62E+01	1.60E+01	7
KI= 762.0;	FE=051	1.02E+02	6.77E+01	2.06E+01	2.01E+01	7

TABLE 26 (cont'd)

KI= 765.3;	FE=052	1.04E+02	7.98E+01	2.38E+01	2.29E+01	7
KI= 766.4;	FE=053	1.03E+02	6.98E+01	2.09E+01	2.03E+01	7
KI= 768.8;	FE=054	1.04E+02	8.10E+01	2.42E+01	2.33E+01	7
KI= 770.6;	FE=055	1.04E+02	8.05E+01	2.39E+01	2.30E+01	7
KI= 772.4;	FE=056	1.04E+02	8.08E+01	2.40E+01	2.31E+01	7
KI= 775.2;	FE=057	1.03E+02	7.76E+01	2.33E+01	2.26E+01	7
KI= 778.1;	FE=334	8.64E+01	3.99E+01	1.46E+01	1.69E+01	6
KI= 781.0;	FE=058	1.04E+02	8.43E+01	2.51E+01	2.41E+01	7
KI= 783.2;	FE=059	1.04E+02	8.39E+01	2.50E+01	2.40E+01	7
KI= 784.4;	FE=060	1.04E+02	8.49E+01	2.53E+01	2.42E+01	7
KI= 785.4;	FE=061	1.05E+02	9.63E+01	2.86E+01	2.72E+01	7
KI= 786.9;	FE=062	1.05E+02	8.77E+01	2.61E+01	2.49E+01	7
KI= 788.8;	FE=335	8.65E+01	4.61E+01	1.66E+01	1.91E+01	6
KI= 791.1;	FE=063	1.04E+02	8.41E+01	2.53E+01	2.43E+01	7
KI= 794.4;	FE=064	1.05E+02	9.54E+01	2.84E+01	2.70E+01	7
KI= 795.7;	FE=065	1.05E+02	9.30E+01	2.76E+01	2.63E+01	7
#800-n-C8-ANE;	FE=066	1.06E+02	9.76E+01	2.87E+01	2.70E+01	7
KI= 801.7;	FE=336	1.02E+02	6.17E+01	2.14E+01	2.11E+01	7
KI= 802.5;	FE=067	8.61E+01	5.36E+01	1.98E+01	2.30E+01	6
KI= 805.7;	FE=068	6.92E+01	1.04E+02	3.76E+01	5.43E+01	5
KI= 807.1;	FE=069	9.74E+01	9.02E+01	3.00E+01	3.07E+01	7
KI= 808.9;	FE=070	1.03E+02	9.88E+01	3.02E+01	2.92E+01	7
KI= 812.3;	FE=071	1.07E+02	1.14E+02	3.39E+01	3.15E+01	7
KI= 813.6;	FE=072	1.06E+02	1.05E+02	3.13E+01	2.94E+01	7
KI= 817.0;	FE=073	1.08E+02	1.21E+02	3.61E+01	3.33E+01	7
KI= 818.2;	FE=074	1.07E+02	1.13E+02	3.38E+01	3.14E+01	7
KI= 821.3;	FE=075	1.09E+02	1.25E+02	3.74E+01	3.43E+01	7
KI= 823.0;	FE=337	8.96E+01	6.71E+01	2.61E+01	2.91E+01	6
KI= 824.2;	FE=076	1.08E+02	1.14E+02	3.42E+01	3.18E+01	7
KI= 825.7;	FE=077	1.08E+02	1.19E+02	3.55E+01	3.28E+01	7
KI= 828.1;	FE=078	1.10E+02	1.31E+02	3.93E+01	3.58E+01	7
KI= 829.3;	FE=338	1.08E+02	1.21E+02	3.67E+01	3.41E+01	7
KI= 834.4;	FE=079	1.09E+02	1.30E+02	3.91E+01	3.57E+01	7
KI= 837.0;	FE=080	1.10E+02	1.33E+02	4.08E+01	3.72E+01	7
KI= 840.8;	FE=081	1.11E+02	1.38E+02	4.17E+01	3.77E+01	7
KI= 842.7;	FE=082	1.12E+02	1.45E+02	4.40E+01	3.95E+01	7
KI= 844.2;	FE=083	1.12E+02	1.49E+02	4.47E+01	3.98E+01	7
KI= 846.2;	FE=084	1.20E+02	1.75E+02	5.15E+01	4.30E+01	7
KI= 848.2;	FE=085	1.21E+02	1.78E+02	5.23E+01	4.33E+01	7
KI= 850.9;	FE=086	1.10E+02	1.45E+02	5.30E+01	4.82E+01	7
KI= 852.8;	FE=087	1.00E+02				1
KI= 854.4;	FE=088	1.15E+02	1.54E+02	4.54E+01	3.94E+01	7
KI= 856.1;	FE=089	1.13E+02	1.56E+02	4.81E+01	4.27E+01	7
KI= 860.0;	FE=090	1.13E+02	1.63E+02	5.04E+01	4.45E+01	7
KI= 863.8;	FE=092	1.11E+02	1.13E+02	3.67E+01	3.32E+01	7
KI= 865.0;	FE=093	9.43E+01	8.70E+01	3.60E+01	3.82E+01	5
KI= 867.4;	FE=094	1.15E+02	1.73E+02	5.35E+01	4.63E+01	7
KI= 869.5;	FE=095	1.15E+02	1.74E+02	5.39E+01	4.69E+01	7
KI= 871.2;	FE=096	1.14E+02	1.68E+02	5.19E+01	4.55E+01	7

TABLE 26 (cont'd)

KI= 873.1;	FE=097	1.20E+02	2.03E+02	6.37E+01	5.29E+01	7
KI= 877.1;	FE=098	1.17E+02	1.96E+02	6.24E+01	5.32E+01	7
KI= 880.0;	FE=099	1.15E+02	1.78E+02	5.57E+01	4.84E+01	7
KI= 881.6;	FE=100	1.17E+02	1.90E+02	5.97E+01	5.11E+01	7
KI= 884.5;	FE=102	1.10E+02	1.36E+02	4.13E+01	3.74E+01	7
KI= 887.4;	FE=103	1.67E+01				1
KI= 890.9;	FE=104	1.23E+02	2.34E+02	7.48E+01	6.08E+01	7
KI= 892.6;	FE=105	1.12E+02	2.38E+02	9.46E+01	8.42E+01	6
KI= 894.6;	FE=106	1.39E+02	4.15E+02	1.65E+02	1.18E+02	6
KI= 895.9;	FE=107	1.48E+02	4.66E+02	1.86E+02	1.26E+02	6
KI= 897.6;	FE=108	1.22E+02	2.38E+02	7.77E+01	6.36E+01	7
$900-n-C9-ANE;	FE=109	1.15E+02	1.80E+02	5.66E+01	4.92E+01	7
KI= 901.3;	FE=110	9.85E+01	1.10E+02	5.26E+01	5.34E+01	4
KI= 908.4;	FE=112	1.20E+02	2.28E+02	7.45E+01	6.20E+01	7
KI= 910.8;	FE=113	1.30E+02	2.98E+02	1.00E+02	7.67E+01	7
KI= 913.9;	FE=114	1.50E+02	4.85E+02	1.93E+02	1.29E+02	6
KI= 917.7;	FE=116	1.41E+02	3.89E+02	1.35E+02	9.56E+01	7
KI= 920.1;	FE=117	1.22E+02	2.39E+02	7.85E+01	6.45E+01	7
KI= 922.6;	FE=118	1.20E+02	2.24E+02	7.33E+01	6.13E+01	7
KI= 924.7;	FE=119	1.22E+02	2.38E+02	7.82E+01	6.43E+01	7
KI= 929.1;	FE=120	1.16E+02	2.28E+02	7.79E+01	6.74E+01	7
KI= 933.5;	FE=122	1.21E+02	2.30E+02	7.56E+01	6.26E+01	7
KI= 939.4;	FE=123	1.52E+02	3.65E+02	1.19E+02	7.82E+01	7
KI= 945.3;	FE=125	1.21E+02	2.39E+02	8.00E+01	6.63E+01	7
KI= 947.4;	FE=126	1.14E+02	1.85E+02	6.01E+01	5.27E+01	7
KI= 952.0;	FE=127	2.04E+02	5.63E+02	2.01E+02	9.87E+01	7
KI= 953.5;	FE=128	1.54E+02	3.74E+02	1.32E+02	8.60E+01	7
KI= 955.6;	FE=339	1.90E+02	5.23E+02	1.87E+02	9.87E+01	7
KI= 955.8;	FE=129	1.15E+02	1.98E+02	6.60E+01	5.72E+01	7
KI= 960.5;	FE=131	2.14E+02	5.42E+02	2.04E+02	9.51E+01	6
KI= 962.1;	FE=132	1.33E+02	2.93E+02	1.02E+02	7.68E+01	7
KI= 964.7;	FE=133	1.38E+02	2.65E+02	8.16E+01	5.92E+01	7
KI= 966.1;	FE=134	8.95E+01	6.47E+01	3.59E+01	4.01E+01	3
KI= 967.4;	FE=135	1.39E+02	2.54E+02	1.06E+02	7.61E+01	4
KI= 970.8;	FE=136	1.13E+02	1.94E+02	6.76E+01	5.99E+01	7
KI= 976.9;	FE=139	1.12E+02	1.81E+02	6.20E+01	5.53E+01	7
KI= 979.2;	FE=140	1.17E+02	2.32E+02	8.09E+01	6.89E+01	7
KI= 981.7;	FE=142	1.50E+02	4.04E+02	1.53E+02	1.02E+02	6
KI= 983.3;	FE=143	1.32E+02	2.12E+02	1.16E+02	8.83E+01	3
KI= 986.2;	FE=144	1.06E+02	1.46E+02	5.10E+01	4.80E+01	7
KI= 993.5;	FE=146	1.11E+02	9.80E+01	6.93E+01	6.24E+01	2
KI= 995.3;	FE=147	1.67E+01				1
KI= 996.8;	FE=148	1.67E+01				1
$1000-n-C10-ANE;	FE=149	1.06E+02	1.43E+02	5.23E+01	4.93E+01	7
KI=1003.9;	FE=150	9.05E+01	7.53E+01	4.05E+01	4.48E+01	3
KI=1009.0;	FE=151	1.09E+02	1.27E+02	4.39E+01	4.02E+01	7
KI=1013.9;	FE=152	1.10E+02	1.81E+02	6.21E+01	5.63E+01	7
KI=1017.0;	FE=153	1.67E+01				1
KI=1019.3;	FE=154	1.41E+02	3.08E+02	1.46E+02	1.04E+02	4

TABLE 26 (concluded)

KI=1020.1;	FE=155	1.39E+02	2.76E+02	1.17E+02	8.40E+01	5
KI=1022.9;	FE=156	1.12E+02	1.75E+02	6.20E+01	5.54E+01	7
KI=1025.8;	FE=157	1.29E+02	2.16E+02	7.75E+01	6.01E+01	7
KI=1028.4;	FE=158	1.07E+02	1.02E+02	4.17E+01	3.88E+01	5
KI=1031.6;	FE=159	1.02E+02	6.52E+01	2.71E+01	2.65E+01	5
KI=1034.6;	FE=161	7.71E+01	1.62E+01	1.14E+01	1.48E+01	2
KI=1038.5;	FE=163	1.01E+02	5.14E+01	2.34E+01	2.33E+01	5
KI=1043.2;	FE=165	1.04E+02	1.26E+02	4.76E+01	4.56E+01	7
KI=1046.4;	FE=167	1.30E+02	1.92E+02	7.51E+01	5.78E+01	7
KI=1049.4;	FE=168	7.90E+01	4.21E+01	2.15E+01	2.72E+01	3
KI=1050.6;	FE=169	2.06E+02	2.36E+02	1.27E+02	6.16E+01	3
KI=1053.8;	FE=170	1.10E+02	1.40E+02	5.68E+01	5.18E+01	7
KI=1057.9;	FE=173	1.05E+02	9.22E+01	4.01E+01	3.83E+01	5
KI=1060.8;	FE=174	1.13E+02	1.32E+02	5.49E+01	4.84E+01	5
KI=1062.6;	FE=340	1.35E+02	2.63E+02	1.11E+02	8.21E+01	5
KI=1064.6;	FE=175	1.05E+02	1.03E+02	4.14E+01	3.93E+01	5
KI=1070.6;	FE=177	9.89E+01	5.36E+01	1.96E+01	1.98E+01	5
KI=1072.8;	FE=178	9.97E+01	4.09E+01	1.61E+01	1.61E+01	5
KI=1079.0;	FE=179	9.87E+01	4.37E+01	1.58E+01	1.60E+01	5
KI=1087.2;	FE=182	8.08E+01	4.89E+01	2.56E+01	3.17E+01	3
$1100-n-C11-ANE;	FE=187	1.06E+02	1.42E+02	5.36E+01	5.04E+01	7
KI=1104.4;	FE=189	6.67E+01				1
KI=1108.4;	FE=191	9.88E+01	4.60E+01	1.92E+01	1.94E+01	4
KI=1112.6;	FE=193	9.90E+01	4.30E+01	1.88E+01	1.89E+01	4
KI=1115.8;	FE=194	9.97E+01	3.65E+01	1.73E+01	1.74E+01	4
KI=1127.0;	FE=199	9.97E+01	8.13E+01	4.22E+01	4.24E+01	3
KI=1129.4;	FE=200	1.01E+02	3.83E+01	1.79E+01	1.78E+01	4
KI=1133.7;	FE=202	6.67E+01				1
KI=1139.7;	FE=205	1.03E+02	5.76E+01	2.70E+01	2.63E+01	4
KI=1141.0;	FE=206	9.90E+01	4.72E+01	1.96E+01	1.98E+01	4
KI=1144.0;	FE=207	7.14E+01	2.97E+00	2.10E+00	2.94E+00	2
KI=1148.3;	FE=208	8.33E+01	3.33E+01	2.36E+01	2.83E+01	2
KI=1149.8;	FE=209	1.67E+01				1
KI=1156.1;	FE=212	9.60E+01	4.10E+01	1.78E+01	1.86E+01	4
KI=1158.0;	FE=213	1.67E+01				1
KI=1159.8;	FE=214	1.15E+02	1.49E+02	6.38E+01	5.53E+01	4
KI=1164.2;	FE=216	9.60E+01	8.88E+01	4.51E+01	4.70E+01	3
KI=1170.4;	FE=217	1.06E+02	8.90E+01	3.46E+01	3.26E+01	5
KI=1171.4;	FE=218	1.67E+01				1
KI=1175.9;	FE=219	1.67E+01				1
KI=1185.3;	FE=222	1.67E+01				1
$1200-n-C12-ANE;	FE=227	1.06E+02	1.62E+02	5.79E+01	5.47E+01	7
KI=1214.2;	FE=232	1.07E+02	1.29E+02	5.50E+01	5.12E+01	4
KI=1218.2;	FE=233	1.67E+01				1
KI=1233.9;	FE=238	6.67E+01				1
KI=1282.7;	FE=253	1.10E+02	1.03E+02	4.40E+01	4.01E+01	4
$1300-n-C13-ANE;	FE=257	2.34E+02	4.68E+02	2.37E+02	1.02E+02	5
TOTAL CONCENTRATION		3.31E+04	5.20E+04	1.87E+04	5.64E+01	7

TABLE 27. REP7 OUTPUT OF A DATA BASE CONTAINING 7 VAPOR PHASE FEATURE ANALYSES OF THE REFERENCE JP-4 FUEL IN UNITS OF KI (KOVATS INDEX)

STATISTICAL SUMMARY OF MH12 DATA BASE

CONSISTING OF 7 SAMPLES
RETENTION INDEX (KI)

COMPOUND NAME		AVERAGE	RANGE	STANDARD DEVIATION	%REL STANDARD DEVIATION	NUMBER OF SAMPLES
AIR PEAK(KI=104.8)		104.78				1
$200-n-C2-ANE;	FE=341	200.00	0.00E+00	0.00E+00	0.00E+00	6
$300-n-C3-ANE;	FE=001	300.00	0.00E+00	0.00E+00	0.00E+00	7
KI= 388.0;	FE=002	352.35	1.32E+01	5.23E+00	1.48E+00	7
$400-n-C4-ANE;	FE=003	400.00	0.00E+00	0.00E+00	0.00E+00	7
KI= 409.5;	FE=299	408.00	4.51E+00	1.82E+00	4.47E-01	7
KI= 417.0;	FE=300	416.21	6.60E+00	2.38E+00	5.71E-01	7
KI= 441.5;	FE=301	440.87	2.75E+00	9.81E-01	2.23E-01	7
KI= 457.6;	FE=004	458.32	5.54E+00	1.78E+00	3.88E-01	7
KI= 483.0;	FE=302	483.93	3.25E+00	1.24E+00	2.57E-01	7
$500-n-C5-ANE;	FE=005	500.00	0.00E+00	0.00E+00	0.00E+00	7
KI= 504.9;	FE=303	504.60	7.85E-01	2.99E-01	5.93E-02	6
KI= 506.0;	FE=006	505.55	7.99E-01	3.09E-01	6.11E-02	6
KI= 506.9;	FE=304	506.55	8.31E-01	3.44E-01	6.79E-02	5
KI= 508.8;	FE=305	508.71	7.91E-01	2.85E-01	5.59E-02	6
KI= 509.9;	FE=007	509.94	8.02E-01	3.10E-01	6.08E-02	7
KI= 512.7;	FE=008	512.45	9.77E-01	3.44E-01	6.72E-02	7
KI= 518.5;	FE=009	518.43	9.79E-01	3.25E-01	6.27E-02	7
KI= 524.1;	FE=306	524.22	1.45E+00	4.48E-01	8.55E-02	7
KI= 527.5;	FE=307	527.74	1.54E+00	4.79E-01	9.07E-02	7
KI= 536.7;	FE=308	536.61	1.67E+00	5.45E-01	1.01E-01	7
KI= 541.9;	FE=309	541.62	1.43E+00	4.71E-01	8.70E-02	7
KI= 542.9;	FE=310	542.75	1.18E+00	4.65E-01	8.57E-02	5
KI= 549.7;	FE=010	544.90	9.74E-01	4.30E-01	7.90E-02	7
KI= 552.4;	FE=011	547.16	1.10E+00	4.31E-01	7.87E-02	7
KI= 559.3;	FE=311	558.56	3.35E+00	1.18E+00	2.10E-01	7
KI= 560.4;	FE=012	557.00	2.41E+00	1.15E+00	2.06E-01	4
KI= 564.2;	FE=312	563.76	1.77E+00	6.66E-01	1.18E-01	7
KI= 577.3;	FE=013	574.76	1.90E+00	6.46E-01	1.12E-01	7
KI= 588.0;	FE=313	587.30	1.82E+00	7.21E-01	1.23E-01	7
KI= 589.7;	FE=314	588.77	1.85E+00	7.45E-01	1.27E-01	7
#600-n-C6-ANE;	FE=014	600.00	0.00E+00	0.00E+00	0.00E+00	7
KI= 604.1;	FE=315	603.48	1.94E+00	7.56E-01	1.25E-01	7
KI= 609.2;	FE=015	607.64	1.86E+00	7.55E-01	1.24E-01	7
KI= 611.2;	FE=016	609.49	1.86E+00	7.40E-01	1.21E-01	7
KI= 613.9;	FE=017	612.35	1.89E+00	7.33E-01	1.20E-01	7
KI= 619.4;	FE=316	619.32	1.72E+00	6.64E-01	1.07E-01	7
KI= 624.8;	FE=018	625.27	1.37E+00	5.41E-01	8.65E-02	7
KI= 627.3;	FE=019	626.30	1.46E+00	5.69E-01	9.09E-02	7
KI= 632.4;	FE=020	631.64	1.26E+00	5.11E-01	8.09E-02	7

TABLE 27 (cont'd)

KI= 768.8;	FE=054	768.58	3.35E-01	1.07E-01	1.40E-02	7
KI= 770.6;	FE=055	770.35	3.89E-01	1.17E-01	1.52E-02	7
KI= 772.4;	FE=056	772.17	1.07E-01	3.32E-02	4.30E-03	7
KI= 775.2;	FE=057	775.04	3.99E-01	1.22E-01	1.58E-02	7
KI= 778.1;	FE=334	778.12	2.59E-01	9.71E-02	1.25E-02	6
KI= 781.0;	FE=058	780.71	4.82E-01	1.49E-01	1.91E-02	7
KI= 783.2;	FE=059	782.94	5.20E-01	1.58E-01	2.02E-02	7
KI= 784.4;	FE=060	784.16	5.39E-01	1.60E-01	2.04E-02	7
KI= 785.4;	FE=061	785.42	4.23E-01	1.27E-01	1.62E-02	7
KI= 786.9;	FE=062	786.81	5.01E-01	1.48E-01	1.88E-02	7
KI= 788.8;	FE=335	788.78	3.16E-01	1.12E-01	1.42E-02	6
KI= 791.1;	FE=063	790.98	7.09E-01	2.11E-01	2.66E-02	7
KI= 794.4;	FE=064	794.10	6.80E-01	2.00E-01	2.52E-02	7
KI= 795.7;	FE=065	795.76	6.65E-01	1.95E-01	2.45E-02	7
#800-n-C8-ANE;	FE=066	800.00	0.00E+00	0.00E+00	0.00E+00	7
KI= 801.7;	FE=336	801.59	6.35E-01	1.88E-01	2.34E-02	7
KI= 802.5;	FE=067	802.56	2.85E-01	1.06E-01	1.32E-02	6
KI= 805.7;	FE=068	805.96	3.13E-01	1.29E-01	1.61E-02	5
KI= 807.1;	FE=069	807.10	5.42E-01	1.60E-01	1.98E-02	7
KI= 808.9;	FE=070	808.99	7.00E-01	2.07E-01	2.55E-02	7
KI= 812.3;	FE=071	812.05	6.14E-01	1.80E-01	2.22E-02	7
KI= 813.6;	FE=072	813.78	5.45E-01	1.60E-01	1.96E-02	7
KI= 817.0;	FE=073	816.77	5.36E-01	1.59E-01	1.94E-02	7
KI= 818.2;	FE=074	818.43	5.54E-01	1.65E-01	2.02E-02	7
KI= 821.3;	FE=075	821.08	4.85E-01	1.43E-01	1.75E-02	7
KI= 823.0;	FE=337	823.01	2.64E-01	9.53E-02	1.16E-02	6
KI= 824.2;	FE=076	824.42	4.17E-01	1.23E-01	1.50E-02	7
KI= 825.7;	FE=077	825.71	5.02E-01	1.47E-01	1.78E-02	7
KI= 828.1;	FE=078	828.04	4.60E-01	1.36E-01	1.64E-02	7
KI= 829.3;	FE=338	829.37	3.80E-01	1.18E-01	1.42E-02	7
KI= 834.4;	FE=079	834.28	3.75E-01	1.12E-01	1.35E-02	7
KI= 837.0;	FE=080	837.01	4.02E-01	1.22E-01	1.46E-02	7
KI= 840.8;	FE=081	840.82	3.78E-01	1.13E-01	1.34E-02	7
KI= 842.7;	FE=082	842.76	3.80E-01	1.14E-01	1.35E-02	7
KI= 844.2;	FE=083	844.21	4.62E-01	1.37E-01	1.62E-02	7
KI= 846.2;	FE=084	846.20	4.84E-01	1.44E-01	1.70E-02	7
KI= 848.2;	FE=085	848.43	4.86E-01	1.46E-01	1.72E-02	7
KI= 850.9;	FE=086	852.81	3.89E-01	1.14E-01	1.34E-02	7
KI= 852.8;	FE=087	854.91				1
KI= 854.4;	FE=088	855.59	4.15E-01	1.24E-01	1.45E-02	7
KI= 856.1;	FE=089	856.85	3.86E-01	1.19E-01	1.39E-02	7
KI= 860.0;	FE=090	860.01	3.34E-01	9.90E-02	1.15E-02	7
KI= 863.8;	FE=092	863.69	1.37E-01	4.39E-02	5.08E-03	7
KI= 865.0;	FE=093	864.83	9.19E-02	3.73E-02	4.31E-03	5
KI= 867.4;	FE=094	867.84	3.23E-01	9.92E-02	1.14E-02	7
KI= 869.5;	FE=095	869.57	3.16E-01	9.39E-02	1.08E-02	7
KI= 871.2;	FE=096	871.17	1.64E-01	4.97E-02	5.70E-03	7
KI= 873.1;	FE=097	873.31	3.19E-01	1.03E-01	1.17E-02	7
KI= 877.1;	FE=098	877.27	2.66E-01	8.16E-02	9.30E-03	7

TABLE 27 (cont'd)

KI= 635.5;	FE=317	635.45	1.44E+00	5.57E-01	8.76E-02	7
KI= 642.4;	FE=318	642.08	1.33E+00	4.97E-01	7.74E-02	7
KI= 647.6;	FE=320	647.71	1.21E+00	4.52E-01	6.98E-02	7
KI= 651.0;	FE=321	650.96	1.10E+00	4.14E-01	6.36E-02	5
KI= 653.0;	FE=021	652.40	1.07E+00	3.94E-01	6.05E-02	7
KI= 656.1;	FE=022	656.75	7.78E-01	3.15E-01	4.79E-02	7
KI= 658.8;	FE=023	660.05	8.71E-01	3.32E-01	5.03E-02	7
KI= 663.0;	FE=322	663.05	9.12E-01	3.39E-01	5.11E-02	7
KI= 666.0;	FE=323	665.80	9.18E-01	3.34E-01	5.02E-02	7
KI= 669.0;	FE=024	669.03	6.87E-01	2.56E-01	3.83E-02	7
KI= 670.4;	FE=025	670.85	5.50E-01	1.98E-01	2.94E-02	7
KI= 671.9;	FE=324	671.88	7.19E-01	2.65E-01	3.94E-02	7
KI= 673.9;	FE=325	673.52	7.94E-01	2.84E-01	4.22E-02	7
KI= 674.8;	FE=326	674.64	7.13E-01	2.61E-01	3.87E-02	7
KI= 677.4;	FE=026	677.98	3.87E-01	1.49E-01	2.20E-02	7
KI= 679.8;	FE=027	680.01	4.61E-01	1.64E-01	2.42E-02	7
KI= 682.0;	FE=028	682.01	5.00E-01	1.77E-01	2.59E-02	7
KI= 684.6;	FE=029	684.58	4.35E-01	1.55E-01	2.27E-02	7
KI= 685.8;	FE=030	685.38	5.11E-01	1.81E-01	2.64E-02	7
KI= 689.6;	FE=327	689.52	5.93E-01	2.03E-01	2.95E-02	7
KI= 692.2;	FE=328	692.24	5.96E-01	2.03E-01	2.93E-02	7
KI= 696.2;	FE=329	696.27	4.80E-01	1.64E-01	2.35E-02	7
$700-n-C7-ANE;	FE=031	700.00	0.00E+00	0.00E+00	0.00E+00	7
KI= 701.8;	FE=032	700.95	4.21E-01	1.35E-01	1.93E-02	7
KI= 702.6;	FE=330	702.60	4.33E-01	1.42E-01	2.03E-02	7
KI= 705.0;	FE=033	704.01	4.60E-01	1.43E-01	2.03E-02	7
KI= 706.7;	FE=034	706.15	2.22E-01	7.44E-02	1.05E-02	7
KI= 708.0;	FE=035	707.44	2.46E-01	8.09E-02	1.14E-02	7
KI= 712.5;	FE=036	712.32	1.20E-01	3.91E-02	5.49E-03	7
KI= 715.6;	FE=037	714.47	3.77E-01	1.33E-01	1.86E-02	7
KI= 719.1;	FE=038	717.69	4.95E-01	1.64E-01	2.29E-02	7
KI= 725.8;	FE=039	724.87	4.45E-01	1.50E-01	2.07E-02	7
KI= 730.0;	FE=040	729.02	3.27E-01	1.08E-01	1.49E-02	7
KI= 731.0;	FE=041	729.95	3.02E-01	1.03E-01	1.41E-02	7
KI= 733.6;	FE=042	732.64	3.49E-01	1.19E-01	1.62E-02	7
KI= 735.0;	FE=043	733.91	3.97E-01	1.34E-01	1.83E-02	7
KI= 741.2;	FE=044	740.28	4.69E-01	1.56E-01	2.10E-02	7
KI= 743.3;	FE=045	742.19	5.36E-01	1.75E-01	2.36E-02	7
KI= 745.4;	FE=046	744.31	5.17E-01	1.70E-01	2.28E-02	7
KI= 745.7;	FE=331	745.64	6.03E-01	1.95E-01	2.61E-02	7
KI= 749.9;	FE=047	749.32	5.99E-01	1.90E-01	2.54E-02	7
KI= 751.4;	FE=332	751.42	5.34E-01	1.66E-01	2.21E-02	7
KI= 753.9;	FE=048	753.10	5.85E-01	1.82E-01	2.42E-02	7
KI= 754.5;	FE=333	754.38	2.08E-01	7.65E-02	1.01E-02	6
KI= 757.1;	FE=049	756.56	2.83E-01	9.13E-02	1.21E-02	7
KI= 758.8;	FE=050	759.73	2.96E-01	9.63E-02	1.27E-02	7
KI= 762.0;	FE=051	761.24	5.36E-01	1.64E-01	2.16E-02	7
KI= 765.3;	FE=052	764.94	1.29E-01	4.66E-02	6.09E-03	7
KI= 766.4;	FE=053	766.00	1.37E-01	4.79E-02	6.25E-03	7

TABLE 27 (cont'd)

KI= 880.0;	FE=099	880.32	2.28E-01	7.43E-02	8.44E-03	7
KI= 881.6;	FE=100	881.87	2.17E-01	6.62E-02	7.50E-03	7
KI= 884.5;	FE=102	886.08	2.50E-01	7.80E-02	8.80E-03	7
KI= 887.4;	FE=103	887.57				1
KI= 890.9;	FE=104	891.54	2.50E-01	8.13E-02	9.12E-03	7
KI= 892.6;	FE=105	893.07	2.42E-01	8.05E-02	9.01E-03	6
KI= 894.6;	FE=106	894.77	2.98E-01	1.06E-01	1.19E-02	6
KI= 895.9;	FE=107	896.17	2.53E-01	9.22E-02	1.03E-02	6
KI= 897.6;	FE=108	898.18	2.91E-01	8.99E-02	1.00E-02	7
$900-n-C9-ANE;	FE=109	900.00	0.00E+00	0.00E+00	0.00E+00	7
KI= 901.3;	FE=110	901.83	2.06E-01	9.33E-02	1.04E-02	4
KI= 908.4;	FE=112	909.21	1.98E-01	6.31E-02	6.94E-03	7
KI= 910.8;	FE=113	911.53	1.66E-01	6.58E-02	7.22E-03	7
KI= 913.9;	FE=114	914.20	2.07E-01	7.57E-02	8.28E-03	6
KI= 917.7;	FE=116	917.62	2.35E-01	7.55E-02	8.22E-03	7
KI= 920.1;	FE=117	920.08	1.70E-01	5.98E-02	6.50E-03	7
KI= 922.6;	FE=118	923.21	1.61E-01	5.51E-02	5.97E-03	7
KI= 924.7;	FE=119	924.92	2.15E-01	6.87E-02	7.43E-03	7
KI= 929.1;	FE=120	929.29	1.97E-01	5.90E-02	6.35E-03	7
KI= 933.5;	FE=122	933.67	1.45E-01	4.88E-02	5.23E-03	7
KI= 939.4;	FE=123	939.64	2.07E-01	6.34E-02	6.74E-03	7
KI= 945.3;	FE=125	945.71	1.87E-01	6.15E-02	6.50E-03	7
KI= 947.4;	FE=126	949.15	2.51E-01	7.98E-02	8.41E-03	7
KI= 952.0;	FE=127	952.44	1.59E-01	5.97E-02	6.27E-03	7
KI= 953.5;	FE=128	953.81	1.91E-01	5.87E-02	6.15E-03	7
KI= 955.6;	FE=339	955.63	2.11E-01	7.41E-02	7.76E-03	7
KI= 955.8;	FE=129	957.53	1.68E-01	5.54E-02	5.78E-03	7
KI= 960.5;	FE=131	960.78	2.97E-01	1.04E-01	1.09E-02	6
KI= 962.1;	FE=132	962.20	9.56E-02	4.04E-02	4.20E-03	7
KI= 964.7;	FE=133	963.95	2.42E-01	7.30E-02	7.57E-03	7
KI= 966.1;	FE=134	964.81	1.12E-01	5.68E-02	5.89E-03	3
KI= 967.4;	FE=135	967.66	2.46E-01	1.03E-01	1.07E-02	4
KI= 970.8;	FE=136	971.09	1.13E-01	3.84E-02	3.96E-03	7
KI= 976.9;	FE=139	974.58	1.56E-01	5.39E-02	5.53E-03	7
KI= 979.2;	FE=140	977.49	9.94E-02	3.93E-02	4.02E-03	7
KI= 981.7;	FE=142	979.67	1.07E-01	4.53E-02	4.62E-03	6
KI= 983.3;	FE=143	982.10	6.38E-02	3.22E-02	3.28E-03	3
KI= 986.2;	FE=144	987.71	1.18E-01	4.18E-02	4.24E-03	7
KI= 993.5;	FE=146	994.11	7.90E-02	5.58E-02	5.62E-03	2
KI= 995.3;	FE=147	995.54				1
KI= 996.8;	FE=148	997.26				1
$1000-n-C10-ANE;	FE=149	1000.00	0.00E+00	0.00E+00	0.00E+00	7
KI=1003.9;	FE=150	1005.38	3.26E-02	1.75E-02	1.74E-03	3
KI=1009.0;	FE=151	1010.54	1.81E-01	6.42E-02	6.35E-03	7
KI=1013.9;	FE=152	1015.68	1.40E-01	4.88E-02	4.81E-03	7
KI=1017.0;	FE=153	1017.28				1
KI=1019.3;	FE=154	1018.88	1.82E-01	7.63E-02	7.49E-03	4
KI=1020.1;	FE=155	1020.52	1.33E-01	4.79E-02	4.70E-03	5
KI=1022.9;	FE=156	1023.05	1.37E-01	4.96E-02	4.85E-03	7

TABLE 27 (concluded)

KI=1025.8;	FE=157	1026.40	1.41E-01	4.39E-02	4.27E-03	7
KI=1028.4;	FE=158	1027.96	2.54E-01	1.06E-01	1.03E-02	5
KI=1031.6;	FE=159	1032.19	1.23E-01	4.70E-02	4.55E-03	5
KI=1034.6;	FE=161	1034.70	7.35E-02	5.20E-02	5.02E-03	2
KI=1038.5;	FE=163	1038.76	1.35E-01	5.61E-02	5.40E-03	5
KI=1043.2;	FE=165	1044.18	2.58E-01	9.64E-02	9.24E-03	7
KI=1046.4;	FE=167	1048.11	2.06E-01	7.43E-02	7.09E-03	7
KI=1049.4;	FE=168	1051.13	1.40E-01	7.34E-02	6.98E-03	3
KI=1050.6;	FE=169	1052.40	1.04E-01	5.24E-02	4.98E-03	3
KI=1053.8;	FE=170	1055.58	2.25E-01	7.99E-02	7.57E-03	7
KI=1057.9;	FE=173	1058.18	1.75E-01	7.39E-02	6.98E-03	5
KI=1060.8;	FE=174	1061.22	1.78E-01	6.83E-02	6.43E-03	5
KI=1062.6;	FE=340	1062.54	2.13E-01	7.83E-02	7.37E-03	5
KI=1064.6;	FE=175	1064.84	1.71E-01	6.61E-02	6.21E-03	5
KI=1070.6;	FE=177	1070.83	2.11E-01	9.42E-02	8.80E-03	5
KI=1072.8;	FE=178	1074.48	2.38E-01	9.46E-02	8.81E-03	5
KI=1079.0;	FE=179	1080.81	1.94E-01	7.63E-02	7.06E-03	5
KI=1087.2;	FE=182	1087.83	2.24E-01	1.12E-01	1.03E-02	3
$1100-n-C11-ANE;	FE=187	1100.00	0.00E+00	0.00E+00	0.00E+00	7
KI=1104.4;	FE=189	1105.57				1
KI=1108.4;	FE=191	1110.33	4.00E-02	2.13E-02	1.92E-03	4
KI=1112.6;	FE=193	1114.55	8.45E-02	4.03E-02	3.62E-03	4
KI=1115.8;	FE=194	1116.68	1.46E-01	6.69E-02	5.99E-03	4
KI=1127.0;	FE=199	1127.39	1.11E-01	5.91E-02	5.24E-03	3
KI=1129.4;	FE=200	1130.09	1.41E-01	5.86E-02	5.19E-03	4
KI=1133.7;	FE=202	1132.69				1
KI=1139.7;	FE=205	1143.18	1.42E-01	6.36E-02	5.57E-03	4
KI=1141.0;	FE=206	1146.05	8.50E-02	3.65E-02	3.18E-03	4
KI=1144.0;	FE=207	1150.67	6.57E-01	4.65E-01	4.04E-02	2
KI=1148.3;	FE=208	1154.08	3.76E-01	2.66E-01	2.31E-02	2
KI=1149.8;	FE=209	1155.15				1
KI=1156.1;	FE=212	1160.30	4.93E-01	2.32E-01	2.00E-02	4
KI=1158.0;	FE=213	1162.24				1
KI=1159.8;	FE=214	1164.57	1.71E-01	7.43E-02	6.38E-03	4
KI=1164.2;	FE=216	1170.93	1.51E-01	7.57E-02	6.46E-03	3
KI=1170.4;	FE=217	1174.64	9.88E-01	4.13E-01	3.52E-02	5
KI=1171.4;	FE=218	1178.12				1
KI=1175.9;	FE=219	1180.32				1
KI=1185.3;	FE=222	1186.67				1
$1200-n-C12-ANE;	FE=227	1200.00	0.00E+00	0.00E+00	0.00E+00	7
KI=1214.2;	FE=232	1214.38	1.95E-01	8.01E-02	6.60E-03	4
KI=1218.2;	FE=233	1218.94				1
KI=1233.9;	FE=238	1234.54				1
KI=1282.7;	FE=253	1285.47	8.94E-02	3.85E-02	3.00E-03	4
$1300-n-C13-ANE;	FE=257	1300.00	0.00E+00	0.00E+00	0.00E+00	5
TOTAL CONCENTRATION		5000.00	0.00E+00	0.00E+00	0.00E+00	7

TABLE 28. REP8 OUTPUT OF A DATA BASE CONTAINING 7 VAPOR PHASE FEATURE ANALYSES OF THE REFERENCE JP-4 FUEL (NUMBER 607)

CONCENTRATIONS OF NAMED COMPOUNDS IN SAMPLES
IN DATA BASE MH12
NUMBER OF SAMPLES= 7

COMPOUND NAME		SAMPLE NAME 607JP4VP03 (ppm-MF)	607JP4VP07 (ppm-MF)	607JP4VP10 (ppm-MF)	607JP4VP05 (ppm-MF)
PROCESSED FILE		BKP023	BKP027	BKP031	BKP025
AIR PEAK(KI=104.8)		0.0000	0.0000	0.0000	0.0000
$200-n-C2-ANE;	FE=341	0.0000	43.5159	39.1292	42.3407
$300-n-C3-ANE;	FE=001	3694.2319	1685.3679	1629.3726	3107.1553
KI= 388.0;	FE=002	3648.2954	1796.8623	3050.3379	3120.3203
$400-n-C4-ANE;	FE=003	10018.4410	5474.6748	9785.0469	9939.8086
KI= 409.5;	FE=299	175.0895	169.4386	154.2873	156.2903
KI= 417.0;	FE=300	141.2650	126.5916	114.6247	116.2123
KI= 441.5;	FE=301	39.6814	34.9715	31.6794	31.9784
KI= 457.6;	FE=004	3815.0015	11714.5590	10619.2810	10665.0680
KI= 483.0;	FE=302	101.4246	91.0941	82.7496	82.9070
$500-n-C5-ANE;	FE=005	5170.4365	2436.5171	4891.6484	3197.2505
KI= 504.9;	FE=303	0.0000	3.5729	3.5296	3.5559
KI= 506.0;	FE=006	0.0000	226.4839	203.1139	203.0241
KI= 506.9;	FE=304	254.0316	0.0000	2.6299	2.5964
KI= 508.8;	FE=305	0.0000	4.5076	4.0963	4.1149
KI= 509.9;	FE=007	4.0115	116.6843	106.0514	106.0390
KI= 512.7;	FE=008	325.7311	295.7533	269.1661	268.6910
KI= 518.5;	FE=009	731.7467	669.7100	610.6421	608.5806
KI= 524.1;	FE=306	5.0332	4.3505	3.9254	4.1814
KI= 527.5;	FE=307	2.3096	2.1179	1.9789	2.1633
KI= 536.7;	FE=308	39.6633	35.2573	32.6012	32.4386
KI= 541.9;	FE=309	22.2574	24.2054	14.2693	14.4807
KI= 542.9;	FE=310	0.0000	4.4371	10.9241	10.7649
KI= 549.7;	FE=010	1181.4121	1051.2251	959.4666	951.7960
KI= 552.4;	FE=011	1127.1619	1062.7861	974.7026	966.6241
KI= 559.3;	FE=311	10.6745	9.6054	5478.9717	8.7981
KI= 560.4;	FE=012	6414.5264	0.0000	8.7672	5428.1475
KI= 564.2;	FE=312	28.7929	25.6797	23.4609	23.2273
KI= 577.3;	FE=013	3908.1421	3622.9761	3331.8125	3291.9443
KI= 588.0;	FE=313	42.8795	37.3343	34.0560	33.7503
KI= 589.7;	FE=314	24.9129	23.0870	21.7060	21.2591
#600-n-C6-ANE;	FE=014	7535.1221	7018.5049	6500.2314	6392.3516
KI= 604.1;	FE=315	12.8891	11.5224	10.7132	10.4957
KI= 609.2;	FE=015	52.2820	46.8406	43.6315	42.8776

TABLE 28 (cont'd)

KI= 611.2;	FE=016	58.5965	52.4959	48.7984	47.8466
KI= 613.9;	FE=017	97.4919	87.5654	81.2112	79.5650
KI= 619.4;	FE=316	29.7932	26.4806	24.6568	24.1547
KI= 624.8;	FE=018	3357.5186	3118.5283	2900.5688	2841.8164
KI= 627.3;	FE=019	48.8458	43.4174	40.6657	39.8893
KI= 632.4;	FE=020	512.8197	467.0672	435.3499	426.0644
KI= 635.5;	FE=317	12.0385	10.7853	9.9401	9.7735
KI= 642.4;	FE=318	2.2441	2.2347	1.8038	1.7238
KI= 647.6;	FE=320	2.6944	2.4498	2.2708	2.1258
KI= 651.0;	FE=321	0.0000	3.4476	3.2618	3.3435
KI= 653.0;	FE=021	252.2077	223.8130	210.2332	204.4245
KI= 656.1;	FE=022	2339.4521	2167.4575	2040.0820	1983.1946
KI= 658.8;	FE=023	1321.3516	1217.1711	1144.2759	1113.5718
KI= 663.0;	FE=322	7.8096	6.8969	6.5469	6.3541
KI= 666.0;	FE=323	1.7769	1.5744	1.4979	1.4752
KI= 669.0;	FE=024	921.6467	865.2397	825.0922	797.1121
KI= 670.4;	FE=025	2364.1348	2156.9287	2045.5286	1978.1611
KI= 671.9;	FE=324	2.4186	2.1498	2.0722	2.0668
KI= 673.9;	FE=325	9.4555	7.1689	6.8038	6.5686
KI= 674.8;	FE=326	8.7641	7.6066	6.9915	6.8524
KI= 677.4;	FE=026	2548.1855	2349.0039	2242.0488	2160.2144
KI= 679.8;	FE=027	479.0236	436.0950	416.2432	400.9584
KI= 682.0;	FE=028	440.8370	400.7148	383.4756	368.7927
KI= 684.6;	FE=029	790.1425	722.8665	691.3701	662.9806
KI= 685.8;	FE=030	205.4617	184.8012	177.3926	172.5034
KI= 689.6;	FE=327	13.5238	11.9352	11.4146	11.0576
KI= 692.2;	FE=328	12.3018	10.8050	10.4016	10.0137
KI= 696.2;	FE=329	6.8813	6.0588	5.8310	5.5486
$700-n-C7-ANE;	FE=031	3334.6748	3066.1914	2991.5684	2847.1470
KI= 701.8;	FE=032	15.4559	13.9766	13.7505	13.1263
KI= 702.6;	FE=330	5.4985	4.6922	4.6741	4.4647
KI= 705.0;	FE=033	17.3183	15.0965	14.6172	13.9426
KI= 706.7;	FE=034	16.7898	14.9702	14.4293	13.8632
KI= 708.0;	FE=035	20.8091	17.9235	17.6068	16.5824
KI= 712.5;	FE=036	2017.8667	1857.4939	1818.6064	1726.4856
KI= 715.6;	FE=037	162.7004	145.5782	142.4477	135.3200
KI= 719.1;	FE=038	103.8301	92.2606	90.3842	85.8384
KI= 725.8;	FE=039	172.0794	154.2902	152.7881	144.1194
KI= 730.0;	FE=040	193.3599	191.4325	183.1898	175.8194
KI= 731.0;	FE=041	367.0603	311.4269	314.8219	294.1100
KI= 733.6;	FE=042	142.5577	127.2265	126.9666	119.2255
KI= 735.0;	FE=043	117.1052	104.2809	103.2420	97.4874
KI= 741.2;	FE=044	129.0995	115.2338	114.9868	108.9196
KI= 743.3;	FE=045	36.8027	32.5444	32.5749	31.3323
KI= 745.4;	FE=046	30.3595	26.7531	26.7214	26.2262
KI= 745.7;	FE=331	3.2909	2.9316	3.0238	3.6357
KI= 749.9;	FE=047	9.6271	8.5980	8.6484	12.5347
KI= 751.4;	FE=332	3.2276	2.8710	2.9100	2.7975
KI= 753.9;	FE=048	41.7175	36.9263	36.9600	34.7894

TABLE 28 (cont'd)

KI= 754.5;	FE=333	4.1385	3.6197	3.7703	3.5219
KI= 757.1;	FE=049	274.1102	245.5948	248.0492	231.6914
KI= 758.8;	FE=050	817.9229	745.8969	757.2120	705.1886
KI= 762.0;	FE=051	22.6575	20.2098	20.4212	19.0371
KI= 765.3;	FE=052	995.1725	901.3547	921.1947	851.6510
KI= 766.4;	FE=053	363.7156	327.6105	333.9201	313.2849
KI= 768.8;	FE=054	253.6247	228.5108	234.7886	216.0109
KI= 770.6;	FE=055	133.2169	119.1774	123.2696	115.7702
KI= 772.4;	FE=056	1039.4016	943.3878	965.2809	893.3287
KI= 775.2;	FE=057	47.6907	42.4249	43.2564	40.0772
KI= 778.1;	FE=334	.7109	.6358	.6634	.6202
KI= 781.0;	FE=058	53.7566	47.6603	49.0260	45.4169
KI= 783.2;	FE=059	30.8149	27.3630	28.1960	26.1372
KI= 784.4;	FE=060	62.3894	55.6740	57.5628	52.9210
KI= 785.4;	FE=061	7.1453	6.5356	6.5374	6.2370
KI= 786.9;	FE=062	116.7596	104.6399	108.5450	99.5639
KI= 788.8;	FE=335	1.3164	1.1662	1.2011	1.0953
KI= 791.1;	FE=063	4.1320	3.5797	3.7020	3.3754
KI= 794.4;	FE=064	26.3330	23.1954	24.0088	21.9679
KI= 795.7;	FE=065	63.6252	56.6462	58.7613	53.9229
#800-n-C8-ANE;	FE=066	886.7065	807.2363	847.4701	773.2957
KI= 801.7;	FE=336	6.8094	6.1652	6.1784	5.7173
KI= 802.5;	FE=067	4.1377	3.3397	3.4345	3.1157
KI= 805.7;	FE=068	5.0292	4.1435	.6367	0.0000
KI= 807.1;	FE=069	8.5573	7.3010	4.6781	10.8865
KI= 808.9;	FE=070	3.2582	2.7706	2.4825	2.6818
KI= 812.3;	FE=071	15.8917	14.1013	14.5751	13.3483
KI= 813.6;	FE=072	8.8479	7.9482	8.2164	7.5448
KI= 817.0;	FE=073	22.0957	19.6459	20.2947	18.5667
KI= 818.2;	FE=074	25.6866	23.1373	23.9830	21.8951
KI= 821.3;	FE=075	53.0489	47.4715	49.2388	44.8441
KI= 823.0;	FE=337	4.7841	4.5163	4.6332	4.3279
KI= 824.2;	FE=076	102.0373	92.7111	97.3157	88.0365
KI= 825.7;	FE=077	27.0244	24.2195	25.2862	22.9868
KI= 828.1;	FE=078	119.2529	107.9027	112.2178	101.7670
KI= 829.3;	FE=338	8.4452	6.9566	7.0667	6.7123
KI= 834.4;	FE=079	134.1353	122.1057	125.3659	114.4118
KI= 837.0;	FE=080	5.1986	5.2618	4.9968	4.4807
KI= 840.8;	FE=081	4.2227	3.6938	3.8920	3.5798
KI= 842.7;	FE=082	38.3027	34.8121	36.1013	32.7087
KI= 844.2;	FE=083	10.6678	9.5566	9.8859	9.0035
KI= 846.2;	FE=084	4.6423	4.0924	4.3447	3.9205
KI= 848.2;	FE=085	2.1753	1.9885	2.0826	1.9414
KI= 850.9;	FE=086	2.9072	2.5803	2.5689	2.4484
KI= 852.8;	FE=087	0.0000	0.0000	0.0000	0.0000
KI= 854.4;	FE=088	104.8452	95.4632	98.9659	90.2364
KI= 856.1;	FE=089	18.5319	17.2182	17.5883	15.5056
KI= 860.0;	FE=090	16.1537	14.5703	14.6896	13.4282
KI= 863.8;	FE=092	258.7253	230.4161	310.0417	215.4560

TABLE 28 (cont'd)

KI= 865.0;	FE=093	68.1294	72.1754	0.0000	65.1236
KI= 867.4;	FE=094	5.2857	4.7440	5.0655	4.4525
KI= 869.5;	FE=095	17.4802	15.9855	15.8597	14.4394
KI= 871.2;	FE=096	88.1393	80.8329	80.5144	73.1930
KI= 873.1;	FE=097	4.3731	4.1195	4.2688	3.5691
KI= 877.1;	FE=098	3.9576	3.6497	3.5273	3.2190
KI= 880.0;	FE=099	33.7803	31.0291	30.5113	27.9335
KI= 881.6;	FE=100	14.0384	12.6066	12.3940	11.3762
KI= 884.5;	FE=102	60.5828	55.9934	56.6970	51.4300
KI= 887.4;	FE=103	0.0000	0.0000	0.0000	0.0000
KI= 890.9;	FE=104	2.5399	2.3810	2.3286	2.1073
KI= 892.6;	FE=105	.8416	.8153	.7589	.7226
KI= 894.6;	FE=106	1.4219	1.2379	1.1184	.9844
KI= 895.9;	FE=107	1.1997	1.1237	1.0342	1.0356
KI= 897.6;	FE=108	6.2034	5.8110	5.3913	5.0681
$900-n-C9-ANE;	FE=109	124.3942	113.8755	105.4490	98.4977
KI= 901.3;	FE=110	1.6391	1.4617	0.0000	1.4022
KI= 908.4;	FE=112	11.9516	11.1231	10.0478	9.6646
KI= 910.8;	FE=113	3.8335	3.7194	3.4496	3.2240
KI= 913.9;	FE=114	1.7034	1.4848	1.2822	1.2166
KI= 917.7;	FE=116	5.8098	5.2229	4.3984	4.4266
KI= 920.1;	FE=117	8.7024	8.0445	7.3572	7.1008
KI= 922.6;	FE=118	14.6544	13.3318	11.5226	11.3917
KI= 924.7;	FE=119	6.8167	5.9394	4.9913	5.0247
KI= 929.1;	FE=120	10.3240	9.2273	4.9242	7.4577
KI= 933.5;	FE=122	20.6828	18.5059	14.4291	14.8832
KI= 939.4;	FE=123	12.1676	8.9678	6.8558	7.3455
KI= 945.3;	FE=125	7.5500	6.7551	5.0227	5.6651
KI= 947.4;	FE=126	8.3783	7.6098	6.2284	6.4823
KI= 952.0;	FE=127	3.7989	3.4025	.6832	2.5758
KI= 953.5;	FE=128	6.6712	5.9539	1.8596	4.6319
KI= 955.6;	FE=339	2.9182	2.5652	.5853	1.6488
KI= 955.8;	FE=129	31.3895	28.3526	19.3847	22.0390
KI= 960.5;	FE=131	3.3802	2.9340	1.1252	.6925
KI= 962.1;	FE=132	10.2352	8.8179	4.4903	3.7639
KI= 964.7;	FE=133	14.0555	11.9590	10.8217	3.1778
KI= 966.1;	FE=134	9.4224	8.7048	0.0000	0.0000
KI= 967.4;	FE=135	5.9910	5.2571	0.0000	1.4535
KI= 970.8;	FE=136	8.4864	7.2073	4.3058	5.8410
KI= 976.9;	FE=139	8.5167	7.6886	5.3041	6.3231
KI= 979.2;	FE=140	4.9372	4.0752	2.3558	3.6346
KI= 981.7;	FE=142	3.3037	1.3604	.7850	2.4705
KI= 983.3;	FE=143	.6301	0.0000	0.0000	.4372
KI= 986.2;	FE=144	38.4733	33.9522	20.4517	27.8749
KI= 993.5;	FE=146	1.2183	0.0000	0.0000	0.0000
KI= 995.3;	FE=147	0.0000	0.0000	0.0000	0.0000
KI= 996.8;	FE=148	0.0000	0.0000	0.0000	0.0000
$1000-n-C10-ANE;	FE=149	39.8610	29.8680	13.4884	23.9271
KI=1003.9;	FE=150	2.2755	1.9137	0.0000	0.0000

TABLE 28 (cont'd)

KI=1009.0;	FE=151	1.8115	2.3034	1.2174	1.3205
KI=1013.9;	FE=152	12.9470	11.5079	5.0379	7.7632
KI=1017.0;	FE=153	0.0000	0.0000	0.0000	0.0000
KI=1019.3;	FE=154	1.0038	.7017	0.0000	.5646
KI=1020.1;	FE=155	1.8029	1.0934	0.0000	.8163
KI=1022.9;	FE=156	7.4536	5.6803	2.2132	4.3148
KI=1025.8;	FE=157	4.9851	4.0865	.9777	3.2070
KI=1028.4;	FE=158	4.9050	3.9784	0.0000	2.9086
KI=1031.6;	FE=159	1.8618	1.4730	0.0000	1.1737
KI=1034.6;	FE=161	.9537	0.0000	0.0000	0.0000
KI=1038.5;	FE=163	1.5140	1.2064	0.0000	.9032
KI=1043.2;	FE=165	3.9551	3.9510	1.3531	2.6423
KI=1046.4;	FE=167	9.4287	7.8429	1.5065	6.0935
KI=1049.4;	FE=168	.8423	.5557	0.0000	0.0000
KI=1050.6;	FE=169	.9708	0.0000	0.0000	4.1442
KI=1053.8;	FE=170	5.0181	3.5041	1.2172	2.6252
KI=1057.9;	FE=173	3.9217	2.1738	0.0000	1.6035
KI=1060.8;	FE=174	.8595	.7167	0.0000	.6780
KI=1062.6;	FE=340	1.0567	.8567	0.0000	.6711
KI=1064.6;	FE=175	5.1004	3.0973	0.0000	1.8812
KI=1070.6;	FE=177	4.0127	3.2008	0.0000	2.3283
KI=1072.8;	FE=178	1.2395	1.1436	0.0000	1.0043
KI=1079.0;	FE=179	9.8028	8.2855	0.0000	6.2601
KI=1087.2;	FE=182	1.5581	0.0000	0.0000	.8031
$1100-n-C11-ANE;	FE=187	29.2940	23.1493	6.4801	17.0780
KI=1104.4;	FE=189	.6122	0.0000	0.0000	0.0000
KI=1108.4;	FE=191	2.7061	2.3309	0.0000	1.6762
KI=1112.6;	FE=193	3.2836	2.9976	0.0000	2.0945
KI=1115.8;	FE=194	1.6678	1.7276	0.0000	1.1839
KI=1127.0;	FE=199	1.2166	.7162	0.0000	0.0000
KI=1129.4;	FE=200	2.0057	1.5892	0.0000	2.3058
KI=1133.7;	FE=202	.4289	0.0000	0.0000	0.0000
KI=1139.7;	FE=205	2.2843	2.2664	0.0000	1.2006
KI=1141.0;	FE=206	2.1979	1.8990	0.0000	1.3390
KI=1144.0;	FE=207	1.5030	0.0000	0.0000	0.0000
KI=1148.3;	FE=208	1.6247	0.0000	0.0000	0.0000
KI=1149.8;	FE=209	0.0000	0.0000	0.0000	0.0000
KI=1156.1;	FE=212	1.0342	.6863	0.0000	0.0000
KI=1158.0;	FE=213	0.0000	0.0000	0.0000	0.0000
KI=1159.8;	FE=214	3.4803	2.2320	0.0000	.8533
KI=1164.2;	FE=216	3.2445	0.0000	0.0000	0.0000
KI=1170.4;	FE=217	3.3472	2.8588	0.0000	2.1165
KI=1171.4;	FE=218	0.0000	0.0000	0.0000	0.0000
KI=1175.9;	FE=219	0.0000	0.0000	0.0000	0.0000
KI=1185.3;	FE=222	0.0000	0.0000	0.0000	0.0000
$1200-n-C12-ANE;	FE=227	10.8763	8.0399	1.2121	6.1024
KI=1214.2;	FE=232	2.3744	1.2610	0.0000	.7132
KI=1218.2;	FE=233	0.0000	0.0000	0 0000	0.0000
KI=1233.9;	FE=238	1.2513	0.0000	..0000	0.0000

TABLE 28 (concluded)

KI=1282.7; FE=253	2.8544	1.9509	0.0000	.9437
$1300-n-C13-ANE;FE=257	9.9692	1.8208	0.0000	10.6876
TOTAL CONCENTRATION	79633.0470	71251.5160	75407.9530	74170.0160
CONC. NAMED PEAKS (ppm-MF)	7.845E+04	6.523E+04	7.540E+04	7.416E+04
TOTAL CONC(ppm-MF)	7.963E+04	7.125E+04	7.541E+04	7.417E+04
% CONC. NAMED VS. TOTAL	98.51840	91.54420	99.98843	99.98875
NO. OF NAMED PEAKS	214	207	178	206
TOTAL NO. OF PEAKS	220	217	182	210
% NAMED VS. TOTAL PEAKS	97.27274	95.39171	97.80220	98.09525

TABLE 29. REP6 OUTPUT OF A DATA BASE CONTAINING 110 VAPOR PHASE FEATURE ANALYSES OF 55 PETROLEUM-DERIVED JP-4 FUELS IN UNITS OF PPM-MF

STATISTICAL SUMMARY OF MH09 DATA BASE

CONSISTING OF 110 SAMPLES
CONCENTRATION (ppm-MF)

COMPOUND NAME		AVERAGE	RANGE	STANDARD DEVIATION	%REL STANDARD DEVIATION	NUMBER OF SAMPLES
AIR PEAK(KI=104.8)		1.32E+00	2.71E+00	1.10E+00	8.32E+01	11
$200-n-C2-ANE;	FE=341	6.50E+01	7.18E+02	1.45E+02	2.23E+02	109
$300-n-C3-ANE;	FE=001	1.02E+03	1.49E+04	2.17E+03	2.13E+02	110
KI= 388.0;	FE=002	1.63E+03	1.02E+04	2.15E+03	1.32E+02	108
$400-n-C4-ANE;	FE=003	7.65E+03	2.57E+04	7.50E+03	9.80E+01	110
KI= 409.5;	FE=299	2.05E+02	2.34E+03	4.24E+02	2.06E+02	108
KI= 417.0;	FE=300	1.01E+02	1.50E+03	3.18E+02	3.15E+02	105
KI= 441.5;	FE=301	1.18E+01	2.16E+02	3.04E+01	2.58E+02	104
KI= 457.6;	FE=004	8.09E+03	2.00E+04	4.50E+03	5.57E+01	110
KI= 483.0;	FE=302	2.72E+01	6.04E+02	7.81E+01	2.87E+02	108
$500-n-C5-ANE;	FE=005	8.05E+03	2.44E+04	5.40E+03	6.71E+01	110
KI= 504.9;	FE=303	2.98E+01	2.77E+02	5.63E+01	1.89E+02	51
KI= 506.0;	FE=006	6.81E+01	1.40E+03	2.18E+02	3.21E+02	70
KI= 506.9;	FE=304	6.36E+00	3.47E+01	8.44E+00	1.33E+02	34
KI= 508.8;	FE=305	5.89E+00	1.14E+02	1.77E+01	3.01E+02	79
KI= 509.9;	FE=007	3.11E+01	7.48E+02	9.77E+01	3.14E+02	104
KI= 512.7;	FE=008	8.75E+01	1.65E+03	2.20E+02	2.51E+02	110
KI= 518.5;	FE=009	1.06E+03	5.24E+03	1.26E+03	1.19E+02	110
KI= 524.1;	FE=306	4.50E+00	2.35E+01	5.96E+00	1.32E+02	30
KI= 527.5;	FE=307	4.76E+00	3.83E+01	1.00E+01	2.11E+02	20
KI= 536.7;	FE=308	1.52E+01	2.69E+02	3.63E+01	2.38E+02	97
KI= 541.9;	FE=309	2.58E+01	1.72E+02	3.37E+01	1.30E+02	43
KI= 549.7;	FE=010	1.34E+03	1.19E+04	1.34E+03	9.95E+01	110
KI= 542.9;	FE=310	1.43E+02	2.08E+03	5.11E+02	3.57E+02	29
KI= 552.4;	FE=011	1.53E+03	4.74E+03	1.16E+03	7.60E+01	107
KI= 559.3;	FE=311	1.68E+02	2.44E+03	5.24E+02	3.13E+02	26
KI= 560.4;	FE=012	8.54E+03	2.61E+04	5.97E+03	7.00E+01	110
KI= 564.2;	FE=312	2.44E+01	2.19E+02	3.96E+01	1.62E+02	73
KI= 577.3;	FE=013	5.61E+03	1.92E+04	4.29E+03	7.65E+01	110
KI= 588.0;	FE=313	3.50E+01	3.54E+02	6.22E+01	1.78E+02	86
KI= 589.7;	FE=314	2.03E+01	1.74E+02	2.73E+01	1.34E+02	76
#600-n-C6-ANE;	FE=014	9.48E+03	2.18E+04	5.55E+03	5.86E+01	110
KI= 604.1;	FE=315	1.73E+01	1.16E+02	2.43E+01	1.40E+02	54
KI= 609.2;	FE=015	3.08E+01	4.03E+02	5.84E+01	1.90E+02	97
KI= 611.2;	FE=016	3.36E+01	4.32E+02	6.47E+01	1.93E+02	99
KI= 613.9;	FE=017	7.44E+01	8.44E+02	1.45E+02	1.95E+02	96
KI= 619.4;	FE=316	2.04E+01	2.35E+02	3.77E+01	1.84E+02	94
KI= 624.8;	FE=018	3.91E+03	1.61E+04	2.76E+03	7.05E+01	100
KI= 627.3;	FE=019	1.57E+03	1.50E+04	3.19E+03	2.03E+02	66
KI= 632.4;	FE=020	5.35E+02	1.87E+03	3.71E+02	6.93E+01	110

TABLE 29 (cont'd)

KI= 635.5;	FE=317	1.94E+01	1.08E+02	2.55E+01	1.32E+02	52
KI= 642.4;	FE=318	3.46E+00	1.55E+01	4.03E+00	1.16E+02	22
KI= 644.0;	FE=319	6.56E+00	9.17E+01	1.76E+01	2.69E+02	26
KI= 647.6;	FE=320	7.36E+01	1.94E+02	6.40E+01	8.69E+01	47
KI= 651.0;	FE=321	8.38E+01	4.00E+02	8.62E+01	1.03E+02	67
KI= 653.0;	FE=021	2.28E+02	1.25E+03	2.50E+02	1.10E+02	106
KI= 656.1;	FE=022	2.75E+03	9.86E+03	2.25E+03	8.17E+01	108
KI= 658.8;	FE=023	1.61E+03	1.02E+04	1.86E+03	1.16E+02	110
KI= 663.0;	FE=322	1.19E+02	2.92E+03	5.32E+02	4.48E+02	50
KI= 666.0;	FE=323	1.62E+00	1.43E+01	2.26E+00	1.40E+02	61
KI= 669.0;	FE=024	1.19E+03	4.49E+03	7.86E+02	6.63E+01	108
KI= 670.4;	FE=025	2.01E+03	4.64E+03	1.06E+03	5.27E+01	92
KI= 671.9;	FE=324	6.69E+02	6.74E+03	1.49E+03	2.23E+02	66
KI= 673.9;	FE=325	5.84E+00	3.63E+01	7.58E+00	1.30E+02	80
KI= 674.8;	FE=326	3.45E+01	2.31E+03	2.66E+02	7.73E+02	75
KI= 677.4;	FE=026	2.39E+03	7.93E+03	1.50E+03	6.26E+01	109
KI= 679.8;	FE=027	7.02E+02	2.92E+03	5.14E+02	7.32E+01	109
KI= 682.0;	FE=028	6.29E+02	2.53E+03	4.48E+02	7.12E+01	109
KI= 684.6;	FE=029	1.11E+03	3.07E+03	7.73E+02	6.95E+01	102
KI= 685.8;	FE=030	4.50E+02	4.90E+03	8.78E+02	1.95E+02	64
KI= 689.6;	FE=327	1.09E+01	5.78E+01	1.32E+01	1.21E+02	62
KI= 692.2;	FE=328	8.36E+00	5.23E+01	9.42E+00	1.13E+02	86
KI= 696.2;	FE=329	7.85E+00	2.90E+01	7.68E+00	9.79E+01	45
$700-n-C7-ANE;	FE=031	3.07E+03	7.48E+03	1.38E+03	4.48E+01	110
KI= 701.8;	FE=032	1.23E+01	8.30E+01	1.72E+01	1.40E+02	65
KI= 702.6;	FE=330	5.81E+00	5.12E+01	1.03E+01	1.77E+02	50
KI= 705.0;	FE=033	1.33E+01	6.72E+01	1.59E+01	1.19E+02	58
KI= 706.7;	FE=034	1.03E+01	4.46E+01	1.24E+01	1.21E+02	64
KI= 708.0;	FE=035	1.01E+01	1.04E+02	1.66E+01	1.65E+02	84
KI= 712.5;	FE=036	3.05E+03	9.85E+03	2.03E+03	6.66E+01	104
KI= 715.6;	FE=037	1.93E+02	5.32E+02	1.30E+02	6.74E+01	110
KI= 719.1;	FE=038	4.95E+01	2.25E+02	4.24E+01	8.56E+01	109
KI= 725.8;	FE=039	2.30E+02	7.32E+02	1.36E+02	5.92E+01	106
KI= 730.0;	FE=040	1.80E+02	6.54E+02	1.22E+02	6.79E+01	108
KI= 731.0;	FE=041	1.81E+02	5.28E+02	1.09E+02	6.01E+01	73
KI= 733.6;	FE=042	1.66E+02	5.50E+02	1.41E+02	8.53E+01	98
KI= 735.0;	FE=043	4.66E+01	1.73E+02	3.54E+01	7.59E+01	94
KI= 741.2;	FE=044	2.11E+02	7.93E+02	1.81E+02	8.61E+01	110
KI= 743.3;	FE=045	1.99E+01	6.16E+01	1.40E+01	7.01E+01	108
KI= 745.4;	FE=046	1.06E+01	5.54E+01	9.88E+00	9.29E+01	107
KI= 745.7;	FE=331	3.69E+00	8.01E+00	2.20E+00	5.96E+01	27
KI= 749.9;	FE=047	4.24E+00	3.79E+01	5.94E+00	1.40E+02	88
KI= 751.4;	FE=332	5.07E+00	4.14E+01	9.47E+00	1.87E+02	33
KI= 753.9;	FE=048	5.11E+01	1.37E+02	3.20E+01	6.26E+01	105
KI= 754.5;	FE=333	6.72E+00	4.16E+01	8.42E+00	1.25E+02	24
KI= 757.1;	FE=049	1.33E+02	3.17E+02	6.16E+01	4.65E+01	110
KI= 758.8;	FE=050	1.25E+03	3.54E+03	7.76E+02	6.21E+01	108
KI= 762.0;	FE=051	1.14E+02	3.37E+03	5.18E+02	4.56E+02	67
KI= 765.3;	FE=052	5.89E+02	1.06E+03	2.46E+02	4.17E+01	107

TABLE 29 (cont'd)

KI= 766.4;	FE=053	1.78E+02	4.07E+02	7.79E+01	4.37E+01	106
KI= 768.8;	FE=054	3.08E+02	9.42E+02	2.08E+02	6.76E+01	110
KI= 770.6;	FE=055	1.82E+02	4.69E+02	1.16E+02	6.39E+01	106
KI= 772.4;	FE=056	4.12E+02	1.22E+03	2.34E+02	5.67E+01	110
KI= 775.2;	FE=057	5.94E+01	1.72E+02	3.78E+01	6.36E+01	110
KI= 778.1;	FE=334	8.14E-01	8.96E-01	2.69E-01	3.30E+01	11
KI= 781.0;	FE=058	5.26E+01	2.17E+02	3.60E+01	6.83E+01	110
KI= 783.2;	FE=059	4.00E+01	1.79E+02	3.05E+01	7.62E+01	108
KI= 784.4;	FE=060	9.66E+01	3.21E+02	7.84E+01	8.12E+01	110
KI= 785.4;	FE=061	7.33E+00	2.17E+01	3.32E+00	4.53E+01	52
KI= 786.9;	FE=062	1.47E+02	3.86E+02	9.69E+01	6.61E+01	110
KI= 788.8;	FE=335	1.42E+00	3.52E+00	7.67E-01	5.40E+01	31
KI= 791.1;	FE=063	4.29E+00	2.68E+01	4.57E+00	1.06E+02	78
KI= 794.4;	FE=064	2.72E+01	1.18E+02	2.56E+01	9.40E+01	110
KI= 795.7;	FE=065	7.09E+01	2.09E+02	4.71E+01	6.65E+01	110
#800-n-C8-ANE;	FE=066	6.11E+02	1.34E+03	2.98E+02	4.88E+01	110
KI= 801.7;	FE=336	1.12E+01	5.58E+01	9.93E+00	8.89E+01	88
KI= 802.5;	FE=067	4.48E+00	1.04E+01	2.29E+00	5.10E+01	21
KI= 805.7;	FE=068	2.62E+00	1.09E+01	2.73E+00	1.04E+02	32
KI= 807.1;	FE=069	8.63E+00	2.52E+01	5.74E+00	6.65E+01	106
KI= 808.9;	FE=070	2.65E+00	6.98E+00	1.61E+00	6.08E+01	21
KI= 812.3;	FE=071	6.92E+00	3.49E+01	4.69E+00	6.78E+01	107
KI= 813.6;	FE=072	1.08E+01	7.06E+01	1.04E+01	9.60E+01	109
KI= 817.0;	FE=073	1.02E+01	4.41E+01	7.41E+00	7.23E+01	107
KI= 818.2;	FE=074	3.19E+01	9.55E+01	2.22E+01	6.96E+01	110
KI= 821.3;	FE=075	2.69E+01	1.15E+02	1.66E+01	6.17E+01	110
KI= 823.0;	FE=337	7.51E+00	2.28E+01	5.08E+00	6.76E+01	31
KI= 824.2;	FE=076	1.56E+02	4.03E+02	9.87E+01	6.32E+01	110
KI= 825.7;	FE=077	3.23E+01	1.28E+02	2.34E+01	7.23E+01	88
KI= 828.1;	FE=078	1.71E+02	5.45E+02	1.18E+02	6.92E+01	110
KI= 829.3;	FE=338	1.50E+01	2.66E+01	6.55E+00	4.38E+01	59
KI= 834.4;	FE=079	8.00E+01	2.91E+02	4.36E+01	5.45E+01	110
KI= 837.0;	FE=080	7.97E+00	3.15E+01	5.99E+00	7.51E+01	102
KI= 840.8;	FE=081	8.10E+00	3.29E+01	7.49E+00	9.25E+01	106
KI= 842.7;	FE=082	5.05E+01	1.52E+02	3.78E+01	7.48E+01	110
KI= 844.2;	FE=083	7.48E+00	2.33E+01	4.10E+00	5.48E+01	89
KI= 846.2;	FE=084	4.45E+00	1.88E+01	3.67E+00	8.25E+01	100
KI= 848.2;	FE=085	2.60E+00	8.14E+00	1.72E+00	6.60E+01	85
KI= 850.9;	FE=086	1.92E+00	6.33E+00	1.16E+00	6.02E+01	63
KI= 852.8;	FE=087	2.11E+00	8.96E+00	1.45E+00	6.88E+01	92
KI= 854.4;	FE=088	1.42E+02	4.28E+02	8.57E+01	6.01E+01	103
KI= 856.1;	FE=089	3.43E+01	2.14E+02	3.79E+01	1.11E+02	60
KI= 860.0;	FE=090	8.78E+00	3.73E+01	5.76E+00	6.56E+01	110
KI= 863.8;	FE=092	3.65E+02	1.17E+03	2.13E+02	5.85E+01	110
KI= 865.0;	FE=093	7.75E+01	1.01E+02	2.69E+01	3.46E+01	16
KI= 867.4;	FE=094	6.45E+00	1.97E+01	4.93E+00	7.64E+01	95
KI= 869.5;	FE=095	1.04E+01	4.15E+01	6.67E+00	6.41E+01	91
KI= 871.2;	FE=096	6.77E+01	1.90E+02	3.93E+01	5.81E+01	110
KI= 873.1;	FE=097	5.76E+00	1.78E+01	3.53E+00	6.12E+01	87

TABLE 29 (cont'd)

KI= 877.1;	FE=098	5.10E+00	1.71E+01	3.62E+00	7.10E+01	106
KI= 880.0;	FE=099	4.63E+01	1.15E+02	2.96E+01	6.40E+01	110
KI= 881.6;	FE=100	1.82E+01	4.18E+01	1.14E+01	6.27E+01	106
KI= 884.5;	FE=102	8.33E+01	2.02E+02	4.45E+01	5.34E+01	109
KI= 887.4;	FE=103	7.10E+00	1.51E+01	4.13E+00	5.81E+01	17
KI= 890.9;	FE=104	4.24E+00	1.49E+01	3.15E+00	7.44E+01	97
KI= 892.6;	FE=105	2.74E+00	1.46E+01	2.55E+00	9.31E+01	83
KI= 894.6;	FE=106	5.58E+00	3.19E+01	6.29E+00	1.13E+02	92
KI= 895.9;	FE=107	4.09E+00	1.22E+01	2.87E+00	7.00E+01	68
KI= 897.6;	FE=108	9.99E+00	2.90E+01	6.91E+00	6.92E+01	106
$900-n-C9-ANE;	FE=109	1.23E+02	2.97E+02	7.34E+01	5.97E+01	110
KI= 901.3;	FE=110	4.50E+00	2.29E+01	3.59E+00	7.98E+01	51
KI= 908.4;	FE=112	1.80E+01	6.32E+01	1.50E+01	8.33E+01	108
KI= 910.8;	FE=113	6.23E+00	1.81E+01	4.59E+00	7.37E+01	107
KI= 913.9;	FE=114	3.24E+00	1.42E+01	3.13E+00	9.66E+01	93
KI= 915.4;	FE=115	3.27E+00	1.02E+01	2.98E+00	9.12E+01	65
KI= 917.7;	FE=116	4.06E+00	1.79E+01	3.63E+00	8.92E+01	88
KI= 920.1;	FE=117	1.12E+01	2.90E+01	7.08E+00	6.31E+01	110
KI= 922.6;	FE=118	1.78E+01	4.55E+01	1.18E+01	6.60E+01	110
KI= 924.7;	FE=119	5.75E+00	1.82E+01	3.75E+00	6.52E+01	102
KI= 929.1;	FE=120	1.08E+01	3.64E+01	7.39E+00	6.85E+01	109
KI= 933.5;	FE=122	2.50E+01	8.40E+01	1.72E+01	6.89E+01	110
KI= 939.4;	FE=123	1.24E+01	4.90E+01	1.06E+01	8.56E+01	109
KI= 941.0;	FE=124	3.53E+00	1.01E+01	2.73E+00	7.74E+01	28
KI= 945.3;	FE=125	1.05E+01	3.59E+01	7.39E+00	7.01E+01	107
KI= 947.4;	FE=126	9.31E+00	2.44E+01	5.44E+00	5.84E+01	110
KI= 952.0;	FE=127	3.91E+00	1.16E+01	2.85E+00	7.28E+01	93
KI= 953.5;	FE=128	4.92E+00	1.46E+01	3.84E+00	7.81E+01	102
KI= 955.6;	FE=339	3.16E+00	7.51E+00	1.72E+00	5.46E+01	45
KI= 955.8;	FE=129	1.54E+00	2.47E+00	1.15E+00	7.45E+01	6
KI= 956.8;	FE=130	3.09E+01	1.02E+02	1.91E+01	6.19E+01	110
KI= 960.5;	FE=131	3.18E+00	6.60E+00	2.21E+00	6.95E+01	32
KI= 962.1;	FE=132	1.03E+01	4.36E+01	8.66E+00	8.45E+01	108
KI= 964.7;	FE=133	1.39E+01	4.46E+01	9.77E+00	7.05E+01	102
KI= 966.1;	FE=134	1.24E+01	4.19E+01	8.03E+00	6.49E+01	54
KI= 967.4;	FE=135	8.96E+00	2.43E+01	5.88E+00	6.56E+01	51
KI= 970.8;	FE=136	7.06E+00	2.48E+01	4.78E+00	6.78E+01	109
KI= 974.9;	FE=138	8.40E+00	2.61E+01	5.52E+00	6.57E+01	109
KI= 976.9;	FE=139	5.01E+00	1.67E+01	3.57E+00	7.12E+01	106
KI= 979.2;	FE=140	3.54E+00	1.18E+01	3.09E+00	8.71E+01	87
KI= 980.2;	FE=141	4.91E+00	1.02E+01	3.03E+00	6.17E+01	13
KI= 981.7;	FE=142	1.86E+00	9.72E+00	1.87E+00	1.01E+02	56
KI= 983.3;	FE=143	1.55E+00	4.46E+00	1.42E+00	9.14E+01	15
KI= 986.2;	FE=144	2.90E+01	8.36E+01	1.66E+01	5.73E+01	110
KI= 989.0;	FE=145	4.40E+00	4.07E+00	1.14E+00	2.60E+01	11
KI= 993.5;	FE=146	2.99E+00	1.14E+01	2.09E+00	6.99E+01	40
KI= 995.3;	FE=147	1.08E+00	4.08E+00	8.26E-01	7.64E+01	25
KI= 996.8;	FE=148	1.05E+00	2.49E+00	7.48E-01	7.13E+01	17
$1000-n-C10-ANE;	FE=149	3.04E+01	1.25E+02	2.25E+01	7.40E+01	110

TABLE 29 (cont'd)

KI=1003.9;	FE=150	3.12E+00	6.15E+00	1.58E+00	5.08E+01	60
KI=1009.0;	FE=151	1.63E+00	5.54E+00	8.07E-01	4.95E+01	62
KI=1017.0;	FE=153	1.12E+01	4.08E+01	8.09E+00	7.25E+01	85
KI=1013.9;	FE=152	1.07E+01	3.51E+01	1.01E+01	9.37E+01	24
KI=1019.3;	FE=154	1.93E+00	5.50E+00	1.70E+00	8.81E+01	66
KI=1020.1;	FE=155	2.91E+00	9.96E+00	2.39E+00	8.20E+01	55
KI=1022.9;	FE=156	6.65E+00	2.90E+01	6.07E+00	9.13E+01	100
KI=1025.8;	FE=157	3.36E+00	2.37E+01	3.38E+00	1.00E+02	92
KI=1028.4;	FE=158	6.33E+00	2.43E+01	5.80E+00	9.17E+01	41
KI=1031.6;	FE=159	1.98E+00	7.94E+00	1.69E+00	8.52E+01	74
KI=1033.4;	FE=160	2.91E+00	9.66E+00	3.08E+00	1.06E+02	10
KI=1034.6;	FE=161	2.33E+00	1.07E+01	2.92E+00	1.25E+02	20
KI=1036.6;	FE=162	1.37E+00	3.75E+00	1.18E+00	8.59E+01	11
KI=1038.5;	FE=163	1.95E+00	7.05E+00	1.53E+00	7.85E+01	57
KI=1040.6;	FE=164	6.56E-01	3.14E-01	1.36E-01	2.08E+01	5
KI=1043.2;	FE=165	3.40E+00	1.44E+01	2.58E+00	7.59E+01	85
KI=1046.4;	FE=167	2.56E+00	5.11E+00	1.77E+00	6.93E+01	20
KI=1049.4;	FE=168	5.42E+00	1.66E+01	3.76E+00	6.94E+01	88
KI=1050.6;	FE=169	1.95E+00	7.99E+00	2.44E+00	1.25E+02	19
KI=1053.8;	FE=170	5.35E+00	1.21E+01	3.00E+00	5.61E+01	41
KI=1055.3;	FE=171	2.87E+00	1.58E+01	2.74E+00	9.53E+01	79
KI=1057.9;	FE=173	3.17E+00	1.93E+01	3.65E+00	1.15E+02	55
KI=1060.8;	FE=174	2.39E+00	2.26E+01	4.70E+00	1.97E+02	41
KI=1062.6;	FE=340	2.51E+00	6.52E+00	1.91E+00	7.63E+01	33
KI=1064.6;	FE=175	3.23E+00	3.63E+01	5.41E+00	1.68E+02	78
KI=1066.2;	FE=176	2.44E+00	6.34E+00	1.75E+00	7.17E+01	19
KI=1070.6;	FE=177	4.14E+00	3.28E+01	5.38E+00	1.30E+02	65
KI=1072.8;	FE=178	4.72E+00	1.50E+01	3.44E+00	7.29E+01	56
KI=1079.0;	FE=179	7.32E+00	3.94E+01	7.32E+00	1.00E+02	45
KI=1081.6;	FE=180	4.20E+00	9.11E+00	2.78E+00	6.60E+01	15
KI=1084.3;	FE=181	1.95E+00	3.84E+00	1.58E+00	8.09E+01	5
KI=1087.2;	FE=182	2.40E+00	1.06E+01	2.41E+00	1.00E+02	23
KI=1089.4;	FE=183	5.01E+00	1.18E+01	5.18E+00	1.03E+02	7
KI=1093.8;	FE=185	2.78E+00	5.63E-01	3.98E-01	1.43E+01	2
KI=1096.0;	FE=186	4.70E+00	1.27E+01	4.44E+00	9.44E+01	10
$1100-n-C11-ANE;	FE=187	2.04E+01	3.44E+02	4.25E+01	2.08E+02	108
KI=1104.4;	FE=189	2.37E+00	6.01E+00	1.98E+00	8.33E+01	12
KI=1108.4;	FE=191	3.08E+00	2.15E+01	4.53E+00	1.47E+02	34
KI=1110.3;	FE=192	1.94E+00	4.38E+00	1.46E+00	7.49E+01	7
KI=1112.6;	FE=193	4.33E+00	4.40E+01	8.36E+00	1.93E+02	44
KI=1115.8;	FE=194	3.67E+00	4.04E+01	7.94E+00	2.16E+02	42
KI=1117.7;	FE=195	6.09E+00	1.46E+01	6.16E+00	1.01E+02	6
KI=1119.7;	FE=196	1.03E+01	1.74E+00	1.23E+00	1.20E+01	2
KI=1123.4;	FE=198	8.58E-01				1
KI=1127.0;	FE=199	2.67E+00	1.95E+01	4.60E+00	1.73E+02	28
KI=1129.4;	FE=200	2.93E+00	2.56E+01	5.42E+00	1.85E+02	35
KI=1132.7;	FE=201	2.79E+00	5.59E+00	2.08E+00	7.44E+01	14
KI=1133.7;	FE=202	9.70E+00	1.11E+00	7.86E-01	8.10E+00	2
KI=1135.0;	FE=203	1.68E+00	2.09E+00	1.02E+00	6.10E+01	4

TABLE 29 (cont'd)

KI=1137.1;	FE=204	3.52E+00	5.23E+00	2.98E+00	8.46E+01	3
KI=1139.7;	FE=205	3.61E+00	1.01E+01	3.21E+00	8.88E+01	24
KI=1144.0;	FE=207	4.18E+00	1.94E+01	5.51E+00	1.32E+02	18
KI=1141.0;	FE=206	3.87E+00	2.21E+01	4.77E+00	1.23E+02	35
KI=1149.8;	FE=209	1.18E+01	1.94E+01	8.77E+00	7.46E+01	4
KI=1148.3;	FE=208	3.84E+00	1.79E+01	4.48E+00	1.17E+02	23
KI=1155.0;	FE=211	2.81E+00	9.25E-01	5.05E-01	1.80E+01	3
KI=1152.6;	FE=210	2.15E+01	2.74E+01	1.48E+01	6.87E+01	3
KI=1156.1;	FE=212	3.40E+00	3.21E+01	8.37E+00	2.47E+02	24
KI=1159.8;	FE=214	5.74E+00	7.61E+01	1.59E+01	2.77E+02	38
KI=1164.2;	FE=216	7.11E+00	5.89E+01	1.54E+01	2.17E+02	23
KI=1161.8;	FE=215	9.19E-01				1
KI=1170.4;	FE=217	5.21E+00	4.51E+01	1.00E+01	1.92E+02	31
KI=1175.9;	FE=219	6.09E+00	2.12E+01	7.50E+00	1.23E+02	7
KI=1171.4;	FE=218	1.02E+00				1
KI=1179.7;	FE=220	4.96E-01				1
KI=1181.4;	FE=221	1.05E+01	2.50E+01	1.44E+01	1.37E+02	3
KI=1185.3;	FE=222	8.55E+00	9.67E+00	6.84E+00	7.99E+01	2
KI=1189.6;	FE=223	3.82E+00	1.49E+01	5.04E+00	1.32E+02	9
KI=1191.5;	FE=224	2.18E+01				1
KI=1193.9;	FE=225	4.14E+00				1
$1200-n-C12-ANE;	FE=227	1.53E+01	4.26E+02	6.22E+01	4.07E+02	85
KI=1205.6;	FE=229	3.38E+00	7.38E+00	3.97E+00	1.18E+02	3
KI=1207.2;	FE=230	7.29E+00	1.10E+01	7.76E+00	1.06E+02	2
KI=1210.9;	FE=231	1.10E+01	1.17E+01	8.26E+00	7.53E+01	2
KI=1214.2;	FE=232	1.22E+01	1.07E+02	2.94E+01	2.41E+02	20
KI=1218.2;	FE=233	1.13E+01	7.68E+00	5.43E+00	4.82E+01	2
KI=1220.0;	FE=234	4.42E+00	6.57E+00	4.64E+00	1.05E+02	2
KI=1221.7;	FE=235	1.02E+01	7.07E+00	5.00E+00	4.91E+01	2
KI=1224.3;	FE=236	5.11E-01	7.47E-03	5.28E-03	1.03E+00	2
KI=1227.8;	FE=237	1.52E+01	1.47E+00	1.04E+00	6.84E+00	2
KI=1233.9;	FE=238	1.08E+01	3.71E+01	1.63E+01	1.51E+02	8
KI=1238.6;	FE=239	1.13E+01	1.26E+01	7.06E+00	6.22E+01	3
KI=1241.7;	FE=240	4.69E+00	8.46E-01	5.98E-01	1.28E+01	2
KI=1245.4;	FE=241	1.02E+01	6.23E+00	4.40E+00	4.30E+01	2
KI=1248.5;	FE=242	1.45E+01	2.28E+01	1.18E+01	8.16E+01	3
KI=1252.8;	FE=243	1.96E+01	4.07E+00	2.88E+00	1.47E+01	2
KI=1254.8;	FE=244	1.38E+01	3.05E+00	2.15E+00	1.57E+01	2
KI=1259.3;	FE=245	1.69E+01	2.48E+01	1.35E+01	8.00E+01	3
KI=1264.0;	FE=246	2.06E+01	4.92E+01	2.54E+01	1.23E+02	5
KI=1267.6;	FE=247	1.68E+00	2.13E-01	1.50E-01	8.97E+00	2
KI=1270.2;	FE=248	1.50E+01	2.20E+01	1.24E+01	8.31E+01	3
KI=1273.1;	FE=249	3.81E+01	9.44E+01	4.99E+01	1.31E+02	5
KI=1276.1;	FE=250	6.30E+00	1.65E+00	1.17E+00	1.86E+01	2
KI=1277.5;	FE=251	5.80E+00	9.60E+00	6.79E+00	1.17E+02	2
KI=1282.7;	FE=253	1.04E+01	7.13E+01	2.22E+01	2.13E+02	17
KI=1285.6;	FE=254	1.04E+00	2.29E-01	1.28E-01	1.23E+01	3
KI=1288.3;	FE=255	3.75E+00	3.14E+00	2.22E+00	5.92E+01	2
KI=1294.2;	FE=256	1.79E+00	3.23E-02	2.29E-02	1.28E+00	2

TABLE 29 (concluded)

$1300-n-C13-ANE;	FE=257	3.09E+01	3.86E+02	9.34E+01	3.03E+02	30
KI=1304.4;	FE=258	6.03E+00	6.35E+00	4.49E+00	7.46E+01	2
KI=1309.6;	FE=259	2.25E+01	5.57E+00	3.94E+00	1.75E+01	2
KI=1318.0;	FE=262	7.61E+00	8.37E+00	5.92E+00	7.78E+01	2
KI=1323.1;	FE=263	2.54E+00	1.76E+00	1.24E+00	4.90E+01	2
KI=1333.4;	FE=265	1.92E+01	1.89E+00	1.33E+00	6.94E+00	2
KI=1338.4;	FE=266	3.10E+00	5.23E-01	3.70E-01	1.20E+01	2
KI=1342.2;	FE=267	3.95E+00	5.29E-01	3.74E-01	9.46E+00	2
KI=1344.5;	FE=268	1.67E+01	1.62E+00	1.15E+00	6.89E+00	2
KI=1347.5;	FE=269	1.09E+01	1.18E+00	8.34E-01	7.67E+00	2
KI=1351.1;	FE=270	1.54E+01	1.60E+00	1.13E+00	7.33E+00	2
KI=1364.0;	FE=273	2.28E+01				1
KI=1376.7;	FE=275	8.48E+00	1.03E+00	7.27E-01	8.58E+00	2
KI=1383.0;	FE=276	3.17E+01	6.22E-01	4.40E-01	1.39E+00	2
KI=1388.6;	FE=277	1.74E+02	1.07E+01	7.57E+00	4.36E+00	2
KI=1393.4;	FE=278	9.09E+00	3.74E-01	2.64E-01	2.91E+00	2
$1400-n-C14-ANE;	FE=279	6.85E+01	6.51E+00	4.60E+00	6.72E+00	2
KI=1411.1;	FE=282	4.39E+00	3.76E-01	2.66E-01	6.04E+00	2
KI=1427.2;	FE=286	7.55E+00	6.39E-01	4.52E-01	5.99E+00	2
KI=1430.3;	FE=287	1.91E+01	1.66E+00	1.17E+00	6.13E+00	2
KI=1446.1;	FE=290	7.10E+00	4.64E-01	3.28E-01	4.62E+00	2
KI=1450.5;	FE=291	4.00E+01	2.04E+00	1.44E+00	3.61E+00	2
KI=1458.7;	FE=293	7.88E+00	6.32E-01	4.47E-01	5.67E+00	2
KI=1470.7;	FE=295	8.54E-01	1.08E-02	7.64E-03	8.94E-01	2
$1500-n-C15-ANE;	FE=296	3.60E+00	5.81E+00	2.68E+00	7.43E+01	4
TOTAL CONCENTRATION		8.67E+04	1.37E+05	2.21E+04	2.55E+01	110

TABLE 30. REP6 OUTPUT OF A DATA BASE CONTAINING 110 VAPOR PHASE FEATURE ANALYSES OF 55 PETROLEUM-DERIVED JP-4 FUELS IN UNITS OF %REL (RELATIVE TO THE VAPOR PHASE ANALYSIS OF THE REFERENCE JP-4 FUEL

STATISTICAL SUMMARY OF MH05 DATA BASE

CONSISTING OF 110 SAMPLES
CONCENTRATION (% REL.)

COMPOUND NAME		AVERAGE	RANGE	STANDARD DEVIATION	%REL STANDARD DEVIATION	NUMBER OF SAMPLES
AIR PEAK(KI=104.8)		5.09E+01	1.05E+02	4.24E+01	8.32E+01	11
$200-n-C2-ANE;	FE=341	1.43E+02	1.58E+03	3.19E+02	2.23E+02	109
$300-n-C3-ANE;	FE=001	4.87E+01	7.12E+02	1.04E+02	2.13E+02	110
KI= 388.0;	FE=002	8.11E+01	5.00E+02	1.06E+02	1.30E+02	108
$400-n-C4-ANE;	FE=003	8.26E+01	2.79E+02	8.10E+01	9.81E+01	110
KI= 409.5;	FE=299	1.20E+02	1.36E+03	2.47E+02	2.06E+02	108
KI= 417.0;	FE=300	7.80E+01	1.16E+03	2.45E+02	3.14E+02	105
KI= 441.5;	FE=301	3.25E+01	5.96E+02	8.38E+01	2.58E+02	104
KI= 457.6;	FE=004	9.00E+01	2.22E+02	5.01E+01	5.57E+01	110
KI= 483.0;	FE=302	2.95E+01	6.48E+02	8.43E+01	2.86E+02	107
$500-n-C5-ANE;	FE=005	1.66E+02	5.04E+02	1.12E+02	6.71E+01	110
KI= 504.9;	FE=303	1.07E+03	7.40E+03	1.74E+03	1.62E+02	42
KI= 506.0;	FE=006	2.47E+01	6.18E+02	9.34E+01	3.78E+02	75
KI= 506.9;	FE=304	3.25E+02	4.00E+03	7.04E+02	2.16E+02	39
KI= 508.8;	FE=305	1.28E+02	2.50E+03	3.87E+02	3.03E+02	80
KI= 509.9;	FE=007	2.39E+02	5.78E+03	7.52E+02	3.15E+02	105
KI= 512.7;	FE=008	2.89E+01	5.45E+02	7.25E+01	2.51E+02	110
KI= 518.5;	FE=009	1.54E+02	7.65E+02	1.84E+02	1.19E+02	110
KI= 524.1;	FE=306	9.99E+01	5.22E+02	1.32E+02	1.32E+02	30
KI= 527.5;	FE=307	2.09E+02	1.68E+03	4.39E+02	2.11E+02	20
KI= 536.7;	FE=308	4.17E+01	7.35E+02	9.92E+01	2.38E+02	97
KI= 541.9;	FE=309	1.01E+03	3.22E+04	5.27E+03	5.25E+02	37
KI= 542.9;	FE=310	1.65E+03	2.28E+04	5.42E+03	3.29E+02	38
KI= 549.7;	FE=010	1.20E+02	1.10E+03	1.16E+02	9.67E+01	109
KI= 552.4;	FE=011	1.16E+02	3.58E+02	8.82E+01	7.62E+01	106
KI= 559.3;	FE=311	3.05E+04	2.46E+05	5.41E+04	1.78E+02	38
KI= 560.4;	FE=012	1.74E+02	5.68E+02	1.27E+02	7.30E+01	100
KI= 564.2;	FE=312	7.80E+01	5.18E+02	1.03E+02	1.33E+02	73
KI= 577.3;	FE=013	1.52E+02	5.22E+02	1.17E+02	7.69E+01	110
KI= 588.0;	FE=313	9.79E+01	9.17E+02	1.65E+02	1.68E+02	81
KI= 589.7;	FE=314	7.76E+01	7.29E+02	1.11E+02	1.43E+02	81
$600-n-C6-ANE;	FE=014	1.33E+02	3.07E+02	7.80E+01	5.86E+01	110
KI= 604.1;	FE=315	1.47E+02	9.83E+02	2.05E+02	1.40E+02	54
KI= 609.2;	FE=015	6.12E+01	7.93E+02	1.16E+02	1.89E+02	96
KI= 611.2;	FE=016	6.15E+01	8.08E+02	1.20E+02	1.95E+02	101
KI= 613.9;	FE=017	8.54E+01	9.49E+02	1.64E+02	1.93E+02	94
KI= 619.4;	FE=316	7.40E+01	8.68E+02	1.39E+02	1.87E+02	95
KI= 624.8;	FE=018	3.59E+03	1.17E+04	2.23E+03	6.22E+01	104
KI= 627.3;	FE=019	3.75E+03	3.63E+04	8.73E+03	2.33E+02	61

TABLE 30 (cont'd)

KI= 632.4;	FE=020	1.16E+02	4.03E+02	7.99E+01	6.89E+01	109
KI= 635.5;	FE=317	1.75E+02	9.91E+02	2.33E+02	1.33E+02	53
KI= 642.4;	FE=318	1.05E+02	5.15E+02	1.08E+02	1.02E+02	26
KI= 644.0;	FE=319	0.00E+00	0.00E+00	0.00E+00	1.70E+38	21
KI= 647.6;	FE=320	2.55E+03	7.74E+03	2.35E+03	9.20E+01	53
KI= 651.0;	FE=321	1.71E+03	8.48E+03	1.81E+03	1.06E+02	60
KI= 653.0;	FE=021	1.02E+02	5.58E+02	1.11E+02	1.08E+02	108
KI= 656.1;	FE=022	1.29E+02	4.61E+02	1.09E+02	8.46E+01	109
KI= 658.8;	FE=023	1.18E+02	5.65E+02	1.21E+02	1.03E+02	108
KI= 663.0;	FE=322	5.89E+02	2.24E+03	5.82E+02	9.87E+01	48
KI= 666.0;	FE=323	9.51E+01	8.40E+02	1.33E+02	1.40E+02	61
KI= 669.0;	FE=024	1.39E+02	5.11E+02	9.26E+01	6.68E+01	110
KI= 670.4;	FE=025	9.13E+01	2.01E+02	4.84E+01	5.30E+01	95
KI= 671.9;	FE=324	2.08E+04	2.74E+05	5.70E+04	2.73E+02	65
KI= 673.9;	FE=325	7.95E+01	4.49E+02	9.74E+01	1.22E+02	71
KI= 674.8;	FE=326	3.98E+02	2.98E+04	3.24E+03	8.15E+02	84
KI= 677.4;	FE=026	1.00E+02	3.32E+02	6.27E+01	6.26E+01	109
KI= 679.8;	FE=027	1.57E+02	6.53E+02	1.15E+02	7.32E+01	109
KI= 682.0;	FE=028	1.53E+02	6.15E+02	1.09E+02	7.12E+01	109
KI= 684.6;	FE=029	1.35E+02	4.16E+02	9.99E+01	7.40E+01	93
KI= 685.8;	FE=030	3.53E+02	2.59E+03	5.25E+02	1.49E+02	74
KI= 689.6;	FE=327	8.73E+01	4.67E+02	1.06E+02	1.22E+02	63
KI= 692.2;	FE=328	7.52E+01	4.68E+02	8.45E+01	1.12E+02	85
KI= 696.2;	FE=329	1.20E+02	4.61E+02	1.21E+02	1.01E+02	47
$700-n-C7-ANE;	FE=031	9.88E+01	2.41E+02	4.43E+01	4.48E+01	110
KI= 701.8;	FE=032	8.42E+01	5.76E+02	1.19E+02	1.41E+02	66
KI= 702.6;	FE=330	1.18E+02	1.03E+03	2.10E+02	1.78E+02	49
KI= 705.0;	FE=033	8.46E+01	4.28E+02	1.01E+02	1.19E+02	58
KI= 706.7;	FE=034	6.53E+01	2.95E+02	7.79E+01	1.19E+02	65
KI= 708.0;	FE=035	5.62E+01	5.50E+02	9.04E+01	1.61E+02	84
KI= 712.5;	FE=036	1.56E+02	5.17E+02	1.07E+02	6.84E+01	110
KI= 715.6;	FE=037	1.29E+02	3.56E+02	8.72E+01	6.74E+01	110
KI= 719.1;	FE=038	5.18E+01	2.40E+02	4.48E+01	8.65E+01	110
KI= 725.8;	FE=039	1.45E+02	4.62E+02	8.66E+01	5.97E+01	110
KI= 730.0;	FE=040	9.47E+01	3.46E+02	6.60E+01	6.96E+01	110
KI= 731.0;	FE=041	4.97E+01	1.38E+02	2.67E+01	5.37E+01	70
KI= 733.6;	FE=042	1.47E+02	4.22E+02	1.03E+02	7.02E+01	110
KI= 735.0;	FE=043	4.26E+01	1.60E+02	3.12E+01	7.32E+01	106
KI= 741.2;	FE=044	1.74E+02	6.71E+02	1.56E+02	8.91E+01	110
KI= 743.3;	FE=045	5.72E+01	1.88E+02	4.20E+01	7.34E+01	109
KI= 745.4;	FE=046	3.69E+01	2.01E+02	3.55E+01	9.64E+01	109
KI= 745.7;	FE=331	1.04E+02	2.47E+02	7.21E+01	6.92E+01	27
KI= 749.9;	FE=047	4.26E+01	3.66E+02	5.74E+01	1.35E+02	87
KI= 751.4;	FE=332	1.62E+02	1.39E+03	3.18E+02	1.96E+02	33
KI= 753.9;	FE=048	1.33E+02	3.52E+02	8.19E+01	6.17E+01	106
KI= 754.5;	FE=333	9.30E+01	2.60E+02	5.62E+01	6.04E+01	22
KI= 757.1;	FE=049	5.32E+01	1.27E+02	2.47E+01	4.65E+01	110
KI= 758.8;	FE=050	1.60E+02	4.66E+02	1.04E+02	6.51E+01	102
KI= 762.0;	FE=051	1.22E+03	1.33E+04	3.34E+03	2.74E+02	69

TABLE 30 (cont'd)

KI= 765.3;	FE=052	6.45E+01	1.28E+02	2.82E+01	4.37E+01	110
KI= 766.4;	FE=053	5.42E+01	1.22E+02	2.31E+01	4.27E+01	105
KI= 768.8;	FE=054	1.33E+02	4.08E+02	9.01E+01	6.76E+01	110
KI= 770.6;	FE=055	1.50E+02	3.86E+02	9.59E+01	6.39E+01	106
KI= 772.4;	FE=056	4.35E+01	1.29E+02	2.47E+01	5.67E+01	110
KI= 775.2;	FE=057	1.38E+02	3.99E+02	8.76E+01	6.36E+01	110
KI= 778.1;	FE=334	9.84E+01	1.08E+02	3.25E+01	3.30E+01	11
KI= 781.0;	FE=058	1.09E+02	4.50E+02	7.45E+01	6.83E+01	110
KI= 783.2;	FE=059	1.42E+02	6.45E+02	1.10E+02	7.76E+01	110
KI= 784.4;	FE=060	1.72E+02	5.68E+02	1.39E+02	8.08E+01	110
KI= 785.4;	FE=061	1.06E+02	1.78E+02	3.76E+01	3.54E+01	50
KI= 786.9;	FE=062	1.39E+02	3.65E+02	9.15E+01	6.61E+01	110
KI= 788.8;	FE=335	8.82E+01	2.85E+02	5.45E+01	6.18E+01	45
KI= 791.1;	FE=063	1.23E+02	7.28E+02	1.20E+02	9.71E+01	82
KI= 794.4;	FE=064	1.16E+02	5.11E+02	1.09E+02	9.41E+01	110
KI= 795.7;	FE=065	1.24E+02	3.65E+02	8.25E+01	6.65E+01	110
#800-n-C8-ANE;	FE=066	7.65E+01	1.67E+02	3.73E+01	4.88E+01	110
KI= 801.7;	FE=336	1.69E+02	8.48E+02	1.52E+02	9.00E+01	86
KI= 802.5;	FE=067	1.16E+02	3.23E+02	7.65E+01	6.58E+01	23
KI= 805.7;	FE=068	4.06E+01	1.77E+02	4.38E+01	1.08E+02	34
KI= 807.1;	FE=069	1.00E+02	2.94E+02	6.68E+01	6.65E+01	106
KI= 808.9;	FE=070	9.40E+01	2.48E+02	5.72E+01	6.08E+01	21
KI= 812.3;	FE=071	4.96E+01	2.50E+02	3.36E+01	6.78E+01	107
KI= 813.6;	FE=072	1.37E+02	8.94E+02	1.32E+02	9.60E+01	109
KI= 817.0;	FE=073	5.31E+01	2.28E+02	3.84E+01	7.23E+01	107
KI= 818.2;	FE=074	1.39E+02	4.16E+02	9.67E+01	6.96E+01	110
KI= 821.3;	FE=075	5.79E+01	2.48E+02	3.57E+01	6.17E+01	110
KI= 823.0;	FE=337	1.32E+02	3.99E+02	8.89E+01	6.76E+01	31
KI= 824.2;	FE=076	1.71E+02	4.35E+02	1.05E+02	6.16E+01	108
KI= 825.7;	FE=077	1.34E+02	5.39E+02	9.74E+01	7.25E+01	90
KI= 828.1;	FE=078	1.62E+02	5.18E+02	1.12E+02	6.92E+01	110
KI= 829.3;	FE=338	1.89E+02	3.80E+02	1.02E+02	5.40E+01	63
KI= 834.4;	FE=079	6.74E+01	2.45E+02	3.67E+01	5.45E+01	110
KI= 837.0;	FE=080	1.66E+02	6.53E+02	1.24E+02	7.51E+01	102
KI= 840.8;	FE=081	2.22E+02	8.96E+02	2.05E+02	9.21E+01	105
KI= 842.7;	FE=082	1.49E+02	4.55E+02	1.12E+02	7.53E+01	110
KI= 844.2;	FE=083	8.26E+01	2.54E+02	4.56E+01	5.51E+01	90
KI= 846.2;	FE=084	1.22E+02	5.14E+02	1.00E+02	8.19E+01	99
KI= 848.2;	FE=085	1.47E+02	4.62E+02	9.74E+01	6.65E+01	86
KI= 850.9;	FE=086	6.77E+01	2.20E+02	3.93E+01	5.81E+01	65
KI= 852.8;	FE=087	3.39E+01	5.69E+02	8.96E+01	2.64E+02	89
KI= 854.4;	FE=088	1.63E+02	5.21E+02	9.69E+01	5.94E+01	102
KI= 856.1;	FE=089	2.28E+02	1.96E+03	2.82E+02	1.24E+02	60
KI= 860.0;	FE=090	6.34E+01	2.67E+02	4.11E+01	6.48E+01	109
KI= 862.2;	FE=091	0.00E+00				1
KI= 863.8;	FE=092	1.54E+02	4.89E+02	8.90E+01	5.79E+01	109
KI= 865.0;	FE=093	8.03E+01	1.38E+02	4.08E+01	5.09E+01	20
KI= 867.4;	FE=094	1.41E+02	4.31E+02	1.08E+02	7.64E+01	95
KI= 869.5;	FE=095	6.93E+01	2.77E+02	4.44E+01	6.41E+01	91

TABLE 30 (cont'd)

KI= 871.2;	FE=096	8.93E+01	2.51E+02	5.19E+01	5.81E+01	110
KI= 873.1;	FE=097	1.55E+02	4.81E+02	9.50E+01	6.12E+01	87
KI= 877.1;	FE=098	1.50E+02	5.03E+02	1.06E+02	7.10E+01	106
KI= 880.0;	FE=099	1.59E+02	3.94E+02	1.02E+02	6.40E+01	110
KI= 881.6;	FE=100	1.55E+02	3.55E+02	9.72E+01	6.27E+01	106
KI= 884.5;	FE=102	1.55E+02	3.78E+02	8.30E+01	5.34E+01	109
KI= 887.4;	FE=103	2.83E+01	6.02E+01	1.65E+01	5.81E+01	17
KI= 890.9;	FE=104	1.94E+02	6.81E+02	1.44E+02	7.44E+01	97
KI= 892.6;	FE=105	2.63E+02	1.40E+03	2.45E+02	9.31E+01	83
KI= 894.6;	FE=106	3.52E+02	2.01E+03	3.94E+02	1.12E+02	93
KI= 895.9;	FE=107	2.74E+02	8.37E+02	1.94E+02	7.07E+01	75
KI= 897.6;	FE=108	1.85E+02	5.39E+02	1.28E+02	6.92E+01	106
$900-n-C9-ANE;	FE=109	1.18E+02	2.86E+02	7.06E+01	5.97E+01	110
KI= 901.3;	FE=110	2.17E+02	1.10E+03	1.73E+02	7.98E+01	51
KI= 908.4;	FE=112	1.75E+02	6.10E+02	1.45E+02	8.25E+01	107
KI= 910.8;	FE=113	1.83E+02	5.31E+02	1.35E+02	7.37E+01	107
KI= 913.9;	FE=114	1.67E+02	7.44E+02	1.63E+02	9.73E+01	95
KI= 915.4;	FE=115	0.00E+00	0.00E+00	0.00E+00	1.70E+38	64
KI= 917.7;	FE=116	8.34E+01	3.70E+02	7.45E+01	8.93E+01	89
KI= 920.1;	FE=117	1.50E+02	3.84E+02	9.35E+01	6.25E+01	109
KI= 922.6;	FE=118	1.47E+02	3.75E+02	9.72E+01	6.62E+01	110
KI= 924.7;	FE=119	1.08E+02	3.41E+02	7.02E+01	6.51E+01	103
KI= 929.1;	FE=120	1.33E+02	4.50E+02	9.13E+01	6.85E+01	109
KI= 933.5;	FE=122	1.58E+02	5.30E+02	1.09E+02	6.89E+01	110
KI= 939.4;	FE=123	1.91E+02	7.45E+02	1.62E+02	8.49E+01	108
KI= 941.0;	FE=124	0.00E+00	0.00E+00	0.00E+00	1.70E+38	31
KI= 945.3;	FE=125	1.77E+02	6.04E+02	1.24E+02	7.01E+01	107
KI= 947.4;	FE=126	1.35E+02	3.54E+02	7.88E+01	5.84E+01	110
KI= 952.0;	FE=127	2.80E+02	8.33E+02	2.04E+02	7.28E+01	93
KI= 953.5;	FE=128	1.48E+02	4.34E+02	1.14E+02	7.73E+01	101
KI= 955.6;	FE=339	2.59E+02	6.66E+02	1.55E+02	5.98E+01	52
KI= 955.8;	FE=129	1.31E+02	4.29E+02	8.02E+01	6.12E+01	109
KI= 956.8;	FE=130	0.00E+00	0.00E+00	0.00E+00	1.70E+38	5
KI= 960.5;	FE=131	2.65E+02	5.49E+02	1.84E+02	6.95E+01	32
KI= 962.1;	FE=132	1.74E+02	7.40E+02	1.47E+02	8.45E+01	108
KI= 964.7;	FE=133	1.61E+02	5.09E+02	1.16E+02	7.18E+01	103
KI= 966.1;	FE=134	8.93E+01	2.09E+02	5.21E+01	5.84E+01	54
KI= 967.4;	FE=135	1.92E+02	5.22E+02	1.26E+02	6.56E+01	51
KI= 970.8;	FE=136	1.12E+02	3.93E+02	7.58E+01	6.78E+01	109
KI= 974.9;	FE=138	0.00E+00	0.00E+00	0.00E+00	1.70E+38	17
KI= 976.9;	FE=139	1.15E+02	3.83E+02	8.05E+01	6.98E+01	109
KI= 979.2;	FE=140	1.26E+02	3.79E+02	8.28E+01	6.55E+01	104
KI= 981.7;	FE=142	1.71E+02	5.93E+02	1.52E+02	8.85E+01	83
KI= 980.2;	FE=141	0.00E+00	0.00E+00	0.00E+00	1.70E+38	3
KI= 983.3;	FE=143	1.86E+02	5.13E+02	1.40E+02	7.53E+01	50
KI= 986.2;	FE=144	7.86E+01	2.17E+02	5.27E+01	6.71E+01	58
KI= 989.0;	FE=145	0.00E+00	0.00E+00	0.00E+00	1.70E+38	66
KI= 993.5;	FE=146	1.52E+02	5.79E+02	1.06E+02	6.99E+01	40
KI= 995.3;	FE=147	1.88E+01	7.09E+01	1.43E+01	7.64E+01	25

TABLE 30 (cont'd)

KI= 996.8;	FE=148	2.84E+01	6.76E+01	2.03E+01	7.13E+01	17
$1000-n-C10-ANE;	FE=149	1.18E+02	4.83E+02	8.72E+01	7.40E+01	110
KI=1003.9;	FE=150	1.00E+02	1.98E+02	5.09E+01	5.08E+01	60
KI=1009.0;	FE=151	1.07E+02	3.62E+02	5.27E+01	4.95E+01	62
KI=1013.9;	FE=152	1.20E+02	4.40E+02	9.10E+01	7.57E+01	106
KI=1017.0;	FE=153	2.02E+01	2.66E+01	9.07E+00	4.48E+01	10
KI=1019.3;	FE=154	1.75E+02	4.99E+02	1.54E+02	8.81E+01	66
KI=1020.1;	FE=155	2.28E+02	7.78E+02	1.87E+02	8.20E+01	55
KI=1022.9;	FE=156	1.43E+02	6.25E+02	1.31E+02	9.13E+01	100
KI=1025.8;	FE=157	1.27E+02	8.94E+02	1.27E+02	1.00E+02	92
KI=1028.4;	FE=158	1.55E+02	5.98E+02	1.43E+02	9.17E+01	41
KI=1031.6;	FE=159	1.27E+02	5.08E+02	1.08E+02	8.52E+01	74
KI=1033.4;	FE=160	0.00E+00	0.00E+00	0.00E+00	1.70E+38	13
KI=1034.6;	FE=161	1.78E+02	7.77E+02	2.28E+02	1.28E+02	17
KI=1036.6;	FE=162	0.00E+00	0.00E+00	0.00E+00	1.70E+38	11
KI=1038.5;	FE=163	1.60E+02	5.76E+02	1.25E+02	7.85E+01	57
KI=1040.6;	FE=164	0.00E+00	0.00E+00	0.00E+00	1.70E+38	5
KI=1043.2;	FE=165	1.17E+02	4.98E+02	8.91E+01	7.59E+01	85
KI=1044.7;	FE=166	0.00E+00	0.00E+00	0.00E+00	1.70E+38	20
KI=1046.4;	FE=167	1.10E+02	3.45E+02	7.37E+01	6.72E+01	87
KI=1049.4;	FE=168	2.73E+02	1.71E+03	4.21E+02	1.54E+02	20
KI=1050.6;	FE=169	3.24E+02	6.91E+02	1.74E+02	5.37E+01	40
KI=1053.8;	FE=170	1.05E+02	5.60E+02	1.05E+02	9.95E+01	79
KI=1055.3;	FE=171	0.00E+00				1
KI=1057.9;	FE=173	1.26E+02	7.67E+02	1.45E+02	1.15E+02	55
KI=1060.8;	FE=174	2.78E+02	2.62E+03	5.47E+02	1.97E+02	41
KI=1062.6;	FE=340	2.57E+02	6.68E+02	1.96E+02	7.63E+01	33
KI=1064.6;	FE=175	1.04E+02	1.17E+03	1.74E+02	1.68E+02	78
KI=1066.2;	FE=176	0.00E+00	0.00E+00	0.00E+00	1.70E+38	9
KI=1070.6;	FE=177	1.32E+02	1.04E+03	1.71E+02	1.30E+02	65
KI=1072.8;	FE=178	5.16E+02	2.65E+03	5.03E+02	9.74E+01	58
KI=1079.0;	FE=179	9.27E+01	4.87E+02	9.71E+01	1.05E+02	56
KI=1081.6;	FE=180	0.00E+00	0.00E+00	0.00E+00	1.70E+38	5
KI=1084.3;	FE=181	0.00E+00	0.00E+00	0.00E+00	1.70E+38	5
KI=1087.2;	FE=182	1.55E+02	6.84E+02	1.56E+02	1.00E+02	23
KI=1089.4;	FE=183	0.00E+00	0.00E+00	0.00E+00	1.70E+38	7
KI=1093.8;	FE=185	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1096.0;	FE=186	0.00E+00	0.00E+00	0.00E+00	1.70E+38	10
$1100-n-C11-ANE;	FE=187	1.28E+02	2.15E+03	2.65E+02	2.08E+02	108
KI=1104.4;	FE=189	2.58E+02	6.55E+02	2.15E+02	8.33E+01	12
KI=1108.4;	FE=191	1.29E+02	9.63E+02	1.87E+02	1.45E+02	41
KI=1112.6;	FE=193	1.46E+02	1.59E+03	2.77E+02	1.91E+02	53
KI=1115.8;	FE=194	2.58E+02	2.71E+03	5.83E+02	2.26E+02	35
KI=1117.7;	FE=195	0.00E+00	0.00E+00	0.00E+00	1.70E+38	4
KI=1119.7;	FE=196	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1123.4;	FE=198	0.00E+00				1
KI=1127.0;	FE=199	3.22E+02	2.35E+03	5.56E+02	1.73E+02	28
KI=1129.4;	FE=200	1.57E+02	1.37E+03	2.89E+02	1.85E+02	35
KI=1132.7;	FE=201	0.00E+00	0.00E+00	0.00E+00	1.70E+38	13

TABLE 30 (cont'd)

KI=1133.7;	FE=202	1.06E+03	1.43E+03	7.78E+02	7.33E+01	3
KI=1135.0;	FE=203	0.00E+00	0.00E+00	0.00E+00	1.70E+38	5
KI=1137.1;	FE=204	0.00E+00	0.00E+00	0.00E+00	1.70E+38	5
KI=1139.7;	FE=205	1.86E+02	5.36E+02	1.56E+02	8.34E+01	29
KI=1141.0;	FE=206	1.98E+02	1.22E+03	2.48E+02	1.25E+02	40
KI=1144.0;	FE=207	2.21E+02	9.69E+02	3.17E+02	1.44E+02	13
KI=1148.3;	FE=208	1.53E+02	7.36E+02	1.73E+02	1.13E+02	26
KI=1149.8;	FE=209	9.40E+01	6.97E+01	3.61E+01	3.84E+01	3
KI=1152.6;	FE=210	0.00E+00	0.00E+00	0.00E+00	1.70E+38	3
KI=1156.1;	FE=212	3.89E+02	3.78E+03	9.68E+02	2.49E+02	25
KI=1159.8;	FE=214	3.21E+02	4.33E+03	8.94E+02	2.79E+02	39
KI=1161.8;	FE=215	0.00E+00				1
KI=1164.2;	FE=216	3.30E+02	2.63E+03	7.04E+02	2.13E+02	22
KI=1170.4;	FE=217	2.10E+02	1.93E+03	4.05E+02	1.93E+02	35
KI=1171.4;	FE=218	3.56E+01				1
KI=1175.9;	FE=219	1.46E+02	1.29E+02	9.10E+01	6.24E+01	2
KI=1179.7;	FE=220	0.00E+00				1
KI=1181.4;	FE=221	0.00E+00	0.00E+00	0.00E+00	1.70E+38	3
KI=1185.3;	FE=222	5.66E+01	6.39E+01	4.52E+01	7.99E+01	2
KI=1189.6;	FE=223	0.00E+00	0.00E+00	0.00E+00	1.70E+38	9
KI=1191.5;	FE=224	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1193.9;	FE=225	0.00E+00				1
$1200-n-C12-ANE;	FE=227	2.57E+02	7.15E+03	1.05E+03	4.07E+02	85
KI=1205.6;	FE=229	0.00E+00	0.00E+00	0.00E+00	1.70E+38	3
KI=1207.2;	FE=230	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1210.9;	FE=231	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1214.2;	FE=232	9.49E+02	8.33E+03	2.29E+03	2.41E+02	20
KI=1218.2;	FE=233	1.07E+02	7.32E+01	5.17E+01	4.82E+01	2
KI=1220.0;	FE=234	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1221.7;	FE=235	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1224.3;	FE=236	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1227.8;	FE=237	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1233.9;	FE=238	5.74E+02	1.98E+03	8.68E+02	1.51E+02	8
KI=1238.6;	FE=239	0.00E+00	0.00E+00	0.00E+00	1.70E+38	3
KI=1241.7;	FE=240	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1245.4;	FE=241	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1248.5;	FE=242	0.00E+00	0.00E+00	0.00E+00	1.70E+38	3
KI=1252.8;	FE=243	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1254.8;	FE=244	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1259.3;	FE=245	0.00E+00	0.00E+00	0.00E+00	1.70E+38	3
KI=1264.0;	FE=246	0.00E+00	0.00E+00	0.00E+00	1.70E+38	5
KI=1267.6;	FE=247	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1270.2;	FE=248	0.00E+00	0.00E+00	0.00E+00	1.70E+38	3
KI=1273.1;	FE=249	0.00E+00	0.00E+00	0.00E+00	1.70E+38	5
KI=1276.1;	FE=250	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1277.5;	FE=251	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1282.7;	FE=253	5.61E+02	3.83E+03	1.20E+03	2.13E+02	17
KI=1285.6;	FE=254	0.00E+00	0.00E+00	0.00E+00	1.70E+38	3
KI=1288.3;	FE=255	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2

TABLE 30 (concluded)

KI=1294.2;	FE=256	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
$1300-n-C13-ANE;	FE=257	1.47E+03	1.84E+04	4.45E+03	3.03E+02	30
KI=1304.4;	FE=258	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1309.6;	FE=259	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1318.0;	FE=262	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1323.1;	FE=263	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1328.0;	FE=264	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1333.4;	FE=265	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1338.4;	FE=266	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1342.2;	FE=267	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1344.5;	FE=268	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1347.5;	FE=269	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1351.1;	FE=270	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1358.9;	FE=272	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1364.0;	FE=273	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1370.3;	FE=274	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1376.7;	FE=275	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1383.0;	FE=276	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1388.6;	FE=277	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1393.4;	FE=278	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
$1400-n-C14-ANE;	FE=279	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1411.1;	FE=282	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1413.6;	FE=283	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1422.0;	FE=285	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1427.2;	FE=286	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1430.3;	FE=287	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1434.1;	FE=288	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1443.2;	FE=289	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1446.1;	FE=290	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1450.5;	FE=291	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1458.7;	FE=293	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1462.7;	FE=294	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
KI=1470.7;	FE=295	0.00E+00	0.00E+00	0.00E+00	1.70E+38	2
$1500-n-C15-ANE;	FE=296	0.00E+00	0.00E+00	0.00E+00	1.70E+38	4
TOTAL CONCENTRATION		5.39E+04	3.07E+05	5.76E+04	1.07E+02	110

TABLE 31. REP7 OUTPUT OF A DATA BASE CONTAINING 110 VAPOR PHASE FEATURE ANALYSES OF 55 PETROLEUM-DERIVED JP-4 FUELS IN UNITS OF KI (KOVATS INDEX)

STATISTICAL SUMMARY OF MH09 DATA BASE

CONSISTING OF 110 SAMPLES
RETENTION INDEX (KI)

COMPOUND NAME		AVERAGE	RANGE	STANDARD DEVIATION	%REL STANDARD DEVIATION	NUMBER OF SAMPLES
AIR PEAK(KI=104.8)		128.43	1.26E+02	3.97E+01	3.09E+01	11
$200-n-C2-ANE;	FE=341	200.00	0.00E+00	0.00E+00	0.00E+00	109
$300-n-C3-ANE;	FE=001	300.00	0.00E+00	0.00E+00	0.00E+00	110
KI= 388.0;	FE=002	350.18	6.40E+01	6.95E+00	1.99E+00	108
$400-n-C4-ANE;	FE=003	400.04	2.81E+00	3.35E-01	8.38E-02	110
KI= 409.5;	FE=299	407.46	7.44E+00	1.56E+00	3.82E-01	108
KI= 417.0;	FE=300	416.93	7.72E+00	1.43E+00	3.44E-01	105
KI= 441.5;	FE=301	441.42	5.02E+00	1.03E+00	2.33E-01	104
KI= 457.6;	FE=004	458.31	9.88E+00	1.51E+00	3.29E-01	110
KI= 483.0;	FE=302	484.92	7.51E+00	1.61E+00	3.32E-01	108
$500-n-C5-ANE;	FE=005	500.00	0.00E+00	0.00E+00	0.00E+00	110
KI= 504.9;	FE=303	505.03	2.29E+00	5.24E-01	1.04E-01	51
KI= 506.0;	FE=006	505.88	2.17E+00	4.42E-01	8.75E-02	70
KI= 506.9;	FE=304	506.82	2.27E+00	4.38E-01	8.64E-02	34
KI= 508.8;	FE=305	508.95	2.97E+00	5.02E-01	9.86E-02	79
KI= 509.9;	FE=007	510.33	2.88E+00	5.31E-01	1.04E-01	104
KI= 512.7;	FE=008	512.76	5.78E+00	7.65E-01	1.49E-01	110
KI= 518.5;	FE=009	518.58	2.57E+00	5.24E-01	1.01E-01	110
KI= 524.1;	FE=306	524.01	3.99E+00	9.14E-01	1.74E-01	30
KI= 527.5;	FE=307	527.35	3.56E+00	1.01E+00	1.91E-01	20
KI= 536.7;	FE=308	536.80	3.17E+00	5.86E-01	1.09E-01	97
KI= 541.9;	FE=309	541.77	1.73E+00	4.58E-01	8.45E-02	43
KI= 549.7;	FE=010	544.76	4.82E+00	6.26E-01	1.15E-01	110
KI= 542.9;	FE=310	542.95	1.82E+00	4.34E-01	7.99E-02	29
KI= 552.4;	FE=011	547.10	2.47E+00	5.86E-01	1.07E-01	107
KI= 559.3;	FE=311	558.67	1.34E+01	2.53E+00	4.53E-01	26
KI= 560.4;	FE=012	556.06	3.71E+00	7.97E-01	1.43E-01	110
KI= 564.2;	FE=312	564.25	4.64E+00	7.85E-01	1.39E-01	73
KI= 577.3;	FE=013	574.46	4.79E+00	8.48E-01	1.48E-01	110
KI= 588.0;	FE=313	587.92	3.79E+00	7.46E-01	1.27E-01	86
KI= 589.7;	FE=314	589.24	3.39E+00	7.63E-01	1.29E-01	76
#600-n-C6-ANE;	FE=014	600.00	0.00E+00	0.00E+00	0.00E+00	110
KI= 604.1;	FE=315	604.67	3.65E+00	8.72E-01	1.44E-01	54
KI= 609.2;	FE=015	608.37	4.34E+00	8.13E-01	1.34E-01	97
KI= 611.2;	FE=016	610.13	3.13E+00	7.46E-01	1.22E-01	99
KI= 613.9;	FE=017	612.94	2.92E+00	7.17E-01	1.17E-01	96
KI= 619.4;	FE=316	619.83	4.39E+00	8.19E-01	1.32E-01	94
KI= 624.8;	FE=018	625.12	6.94E+00	1.14E+00	1.82E-01	100
KI= 627.3;	FE=019	626.81	2.77E+00	6.34E-01	1.01E-01	66

TABLE 31 (cont'd)

KI= 632.4;	FE=020	631.98	2.99E+00	6.36E-01	1.01E-01	110
KI= 635.5;	FE=317	635.93	2.42E+00	5.44E-01	8.56E-02	52
KI= 642.4;	FE=318	642.83	4.50E+00	1.08E+00	1.69E-01	22
KI= 644.0;	FE=319	643.93	9.62E+00	1.74E+00	2.70E-01	26
KI= 647.6;	FE=320	648.77	4.47E+00	8.48E-01	1.31E-01	47
KI= 651.0;	FE=321	650.52	4.04E+00	9.08E-01	1.40E-01	67
KI= 653.0;	FE=021	652.62	4.66E+00	5.24E-01	8.02E-02	106
KI= 656.1;	FE=022	656.82	4.14E+00	7.19E-01	1.09E-01	108
KI= 658.8;	FE=023	660.10	4.12E+00	6.93E-01	1.05E-01	110
KI= 663.0;	FE=322	662.98	2.97E+00	6.04E-01	9.11E-02	50
KI= 666.0;	FE=323	665.86	2.03E+00	3.72E-01	5.59E-02	61
KI= 669.0;	FE=024	669.14	1.38E+00	3.16E-01	4.72E-02	108
KI= 670.4;	FE=025	670.65	3.16E+00	6.81E-01	1.02E-01	92
KI= 671.9;	FE=324	671.96	2.15E+00	5.22E-01	7.76E-02	66
KI= 673.9;	FE=325	673.85	1.99E+00	4.28E-01	6.36E-02	80
KI= 674.8;	FE=326	674.78	1.48E+00	3.13E-01	4.65E-02	75
KI= 677.4;	FE=026	678.02	2.27E+00	4.61E-01	6.80E-02	109
KI= 679.8;	FE=027	680.14	1.53E+00	3.06E-01	4.50E-02	109
KI= 682.0;	FE=028	682.18	1.75E+00	3.08E-01	4.52E-02	109
KI= 684.6;	FE=029	684.75	1.89E+00	3.32E-01	4.84E-02	102
KI= 685.8;	FE=030	685.54	1.56E+00	2.83E-01	4.13E-02	64
KI= 689.6;	FE=327	689.53	1.99E+00	4.11E-01	5.96E-02	62
KI= 692.2;	FE=328	692.27	2.35E+00	4.48E-01	6.48E-02	86
KI= 696.2;	FE=329	696.25	2.90E+00	5.23E-01	7.52E-02	45
$700-n-C7-ANE;	FE=031	699.99	1.42E+00	1.35E-01	1.93E-02	110
KI= 701.8;	FE=032	701.09	2.06E+00	3.73E-01	5.33E-02	65
KI= 702.6;	FE=330	702.78	2.12E+00	4.26E-01	6.06E-02	50
KI= 705.0;	FE=033	704.27	2.37E+00	3.89E-01	5.52E-02	58
KI= 706.7;	FE=034	706.42	2.42E+00	4.43E-01	6.27E-02	64
KI= 708.0;	FE=035	707.86	4.08E+00	6.01E-01	8.49E-02	84
KI= 712.5;	FE=036	712.78	3.63E+00	6.33E-01	8.88E-02	104
KI= 715.6;	FE=037	714.75	2.19E+00	3.94E-01	5.51E-02	110
KI= 719.1;	FE=038	717.91	2.39E+00	4.04E-01	5.62E-02	109
KI= 725.8;	FE=039	725.07	2.16E+00	3.84E-01	5.29E-02	106
KI= 730.0;	FE=040	729.02	2.25E+00	4.46E-01	6.12E-02	108
KI= 731.0;	FE=041	730.75	4.42E+00	1.40E+00	1.92E-01	73
KI= 733.6;	FE=042	732.91	2.88E+00	5.07E-01	6.91E-02	98
KI= 735.0;	FE=043	734.11	6.45E+00	7.36E-01	1.00E-01	94
KI= 741.2;	FE=044	740.48	2.08E+00	3.53E-01	4.77E-02	110
KI= 743.3;	FE=045	742.34	1.85E+00	3.25E-01	4.37E-02	108
KI= 745.4;	FE=046	744.44	1.90E+00	3.33E-01	4.47E-02	107
KI= 745.7;	FE=331	745.92	1.24E+00	2.85E-01	3.82E-02	27
KI= 749.9;	FE=047	749.50	2.17E+00	3.53E-01	4.72E-02	88
KI= 751.4;	FE=332	751.62	2.30E+00	4.52E-01	6.01E-02	33
KI= 753.9;	FE=048	753.22	1.66E+00	2.97E-01	3.94E-02	105
KI= 754.5;	FE=333	754.44	1.51E+00	3.62E-01	4.79E-02	24
KI= 757.1;	FE=049	756.74	1.30E+00	2.89E-01	3.81E-02	110
KI= 758.8;	FE=050	760.10	1.90E+00	4.13E-01	5.43E-02	108
KI= 762.0;	FE=051	761.62	3.78E+00	6.67E-01	8.76E-02	67

TABLE 31 (cont'd)

KI= 765.3;	FE=052	764.89	1.31E+00	2.18E-01	2.84E-02	107
KI= 766.4;	FE=053	765.93	1.12E+00	2.02E-01	2.63E-02	106
KI= 768.8;	FE=054	768.72	1.26E+00	2.42E-01	3.15E-02	110
KI= 770.6;	FE=055	770.43	1.16E+00	2.31E-01	2.99E-02	106
KI= 772.4;	FE=056	771.88	1.50E+00	2.57E-01	3.33E-02	110
KI= 775.2;	FE=057	775.07	1.12E+00	2.09E-01	2.70E-02	110
KI= 778.1;	FE=334	778.42	6.99E-01	2.05E-01	2.64E-02	11
KI= 781.0;	FE=058	780.88	1.30E+00	2.31E-01	2.96E-02	110
KI= 783.2;	FE=059	783.07	1.10E+00	2.17E-01	2.77E-02	108
KI= 784.4;	FE=060	784.31	1.20E+00	2.36E-01	3.01E-02	110
KI= 785.4;	FE=061	785.43	1.15E+00	2.53E-01	3.22E-02	52
KI= 786.9;	FE=062	786.97	1.01E+00	2.13E-01	2.70E-02	110
KI= 788.8;	FE=335	790.43	4.27E+00	1.23E+00	1.55E-01	31
KI= 791.1;	FE=063	792.59	2.23E+00	6.15E-01	7.76E-02	78
KI= 794.4;	FE=064	794.30	1.13E+00	2.54E-01	3.20E-02	110
KI= 795.7;	FE=065	795.92	1.12E+00	2.55E-01	3.21E-02	110
#800-n-C8-ANE;	FE=066	800.00	0.00E+00	0.00E+00	0.00E+00	110
KI= 801.7;	FE=336	801.79	8.51E-01	2.10E-01	2.62E-02	88
KI= 802.5;	FE=067	802.64	1.06E+00	3.90E-01	4.86E-02	21
KI= 805.7;	FE=068	805.40	1.57E+00	5.09E-01	6.32E-02	32
KI= 807.1;	FE=069	807.16	9.12E-01	2.12E-01	2.62E-02	106
KI= 808.9;	FE=070	809.25	7.48E-01	2.24E-01	2.77E-02	21
KI= 812.3;	FE=071	812.24	1.02E+00	2.29E-01	2.82E-02	107
KI= 813.6;	FE=072	813.88	1.67E+00	2.51E-01	3.09E-02	109
KI= 817.0;	FE=073	816.98	1.14E+00	2.10E-01	2.58E-02	107
KI= 818.2;	FE=074	818.54	1.03E+00	2.31E-01	2.82E-02	110
KI= 821.3;	FE=075	821.27	1.18E+00	2.14E-01	2.61E-02	110
KI= 823.0;	FE=337	823.23	6.95E-01	1.65E-01	2.00E-02	31
KI= 824.2;	FE=076	824.56	1.02E+00	1.82E-01	2.21E-02	110
KI= 825.7;	FE=077	825.78	1.14E+00	2.13E-01	2.58E-02	88
KI= 828.1;	FE=078	828.18	1.13E+00	1.84E-01	2.22E-02	110
KI= 829.3;	FE=338	829.49	2.33E+00	3.81E-01	4.60E-02	59
KI= 834.4;	FE=079	834.38	1.31E+00	2.04E-01	2.45E-02	110
KI= 837.0;	FE=080	837.11	1.33E+00	1.95E-01	2.33E-02	102
KI= 840.8;	FE=081	840.89	1.38E+00	2.03E-01	2.41E-02	106
KI= 842.7;	FE=082	842.84	1.33E+00	1.96E-01	2.32E-02	110
KI= 844.2;	FE=083	844.25	7.23E-01	1.64E-01	1.95E-02	89
KI= 846.2;	FE=084	846.67	1.93E+00	2.73E-01	3.23E-02	100
KI= 848.2;	FE=085	848.44	7.76E-01	1.67E-01	1.97E-02	85
KI= 850.9;	FE=086	851.25	9.42E-01	2.10E-01	2.46E-02	63
KI= 852.8;	FE=087	852.88	6.59E-01	1.49E-01	1.75E-02	92
KI= 854.4;	FE=088	855.65	1.56E+00	1.98E-01	2.31E-02	103
KI= 856.1;	FE=089	856.73	1.65E+00	4.06E-01	4.74E-02	60
KI= 860.0;	FE=090	860.14	1.61E+00	1.89E-01	2.19E-02	110
KI= 863.8;	FE=092	863.75	1.45E+00	1.66E-01	1.92E-02	110
KI= 865.0;	FE=093	864.78	4.03E-01	1.04E-01	1.20E-02	16
KI= 867.4;	FE=094	867.87	4.93E-01	1.15E-01	1.33E-02	95
KI= 869.5;	FE=095	869.62	5.74E-01	1.21E-01	1.39E-02	91
KI= 871.2;	FE=096	871.20	1.70E+00	1.66E-01	1.91E-02	110

TABLE 31 (cont'd)

KI= 873.1;	FE=097	873.29	5.56E-01	1.10E-01	1.26E-02	87
KI= 877.1;	FE=098	877.29	1.83E+00	1.88E-01	2.15E-02	106
KI= 880.0;	FE=099	880.30	1.81E+00	1.82E-01	2.07E-02	110
KI= 881.6;	FE=100	881.84	1.86E+00	1.86E-01	2.11E-02	106
KI= 884.5;	FE=102	886.07	4.64E-01	9.67E-02	1.09E-02	109
KI= 887.4;	FE=103	887.63	4.30E-01	1.30E-01	1.47E-02	17
KI= 890.9;	FE=104	891.47	4.97E-01	1.00E-01	1.12E-02	97
KI= 892.6;	FE=105	893.00	4.01E-01	9.84E-02	1.10E-02	83
KI= 894.6;	FE=106	894.89	2.22E+00	3.86E-01	4.31E-02	92
KI= 895.9;	FE=107	896.09	4.43E-01	1.06E-01	1.18E-02	68
KI= 897.6;	FE=108	898.12	4.52E-01	9.47E-02	1.05E-02	106
$900-n-C9-ANE;	FE=109	900.00	0.00E+00	0.00E+00	0.00E+00	110
KI= 901.3;	FE=110	901.76	3.60E-01	7.99E-02	8.86E-03	51
KI= 908.4;	FE=112	909.21	8.87E+00	8.37E-01	9.20E-02	108
KI= 910.8;	FE=113	911.47	8.52E-01	1.05E-01	1.16E-02	107
KI= 913.9;	FE=114	914.20	1.17E+00	1.31E-01	1.43E-02	93
KI= 915.4;	FE=115	916.17	2.00E+00	2.46E-01	2.68E-02	65
KI= 917.7;	FE=116	917.63	5.38E-01	9.69E-02	1.06E-02	88
KI= 920.1;	FE=117	920.11	1.90E+00	2.00E-01	2.17E-02	110
KI= 922.6;	FE=118	923.17	1.70E+00	1.66E-01	1.80E-02	110
KI= 924.7;	FE=119	924.93	4.53E-01	8.12E-02	8.78E-03	102
KI= 929.1;	FE=120	929.23	1.64E+00	1.61E-01	1.74E-02	109
KI= 933.5;	FE=122	933.69	1.50E+00	1.43E-01	1.53E-02	110
KI= 939.4;	FE=123	939.65	1.35E+00	1.30E-01	1.38E-02	109
KI= 941.0;	FE=124	941.39	1.52E+00	4.73E-01	5.02E-02	28
KI= 945.3;	FE=125	945.62	1.95E+00	2.07E-01	2.19E-02	107
KI= 947.4;	FE=126	949.10	1.24E+00	1.29E-01	1.36E-02	110
KI= 952.0;	FE=127	952.36	3.77E-01	7.50E-02	7.87E-03	93
KI= 953.5;	FE=128	953.81	1.13E+00	1.16E-01	1.22E-02	102
KI= 955.6;	FE=339	955.57	2.61E-01	6.60E-02	6.91E-03	45
KI= 955.8;	FE=129	955.70	7.41E-02	2.62E-02	2.74E-03	6
KI= 956.8;	FE=130	957.47	1.08E+00	1.09E-01	1.14E-02	110
KI= 960.5;	FE=131	960.76	2.68E-01	6.69E-02	6.97E-03	32
KI= 962.1;	FE=132	962.19	9.69E-01	9.59E-02	9.97E-03	108
KI= 964.7;	FE=133	963.90	1.18E+00	1.49E-01	1.55E-02	102
KI= 966.1;	FE=134	964.87	2.61E-01	5.34E-02	5.53E-03	54
KI= 967.4;	FE=135	967.53	7.23E-01	1.43E-01	1.48E-02	51
KI= 970.8;	FE=136	971.12	8.02E-01	8.57E-02	8.83E-03	109
KI= 974.9;	FE=138	974.54	7.11E-01	8.95E-02	9.18E-03	109
KI= 976.9;	FE=139	977.46	6.16E-01	9.34E-02	9.56E-03	106
KI= 979.2;	FE=140	979.62	3.18E-01	6.85E-02	6.99E-03	87
KI= 980.2;	FE=141	980.60	1.94E-01	5.57E-02	5.69E-03	13
KI= 981.7;	FE=142	982.06	3.34E-01	6.44E-02	6.56E-03	56
KI= 983.3;	FE=143	985.36	2.26E-01	6.79E-02	6.89E-03	15
KI= 986.2;	FE=144	987.67	4.05E-01	6.55E-02	6.63E-03	110
KI= 989.0;	FE=145	989.41	2.45E-01	7.46E-02	7.54E-03	11
KI= 993.5;	FE=146	994.08	4.64E-01	8.98E-02	9.04E-03	40
KI= 995.3;	FE=147	995.62	3.88E-01	8.16E-02	8.20E-03	25
KI= 996.8;	FE=148	997.24	3.84E-01	1.04E-01	1.05E-02	17

TABLE 31 (cont'd)

$1000-n-C10-ANE;	FE=149	1000.00	0.00E+00	0.00E+00	0.00E+00	110
KI=1003.9;	FE=150	1005.37	3.38E-01	7.56E-02	7.52E 03	60
KI=1009.0;	FE=151	1010.55	1.27E+00	1.50E-01	1.48E-02	62
KI=1017.0;	FE=153	1015.68	1.91E+00	3.28E-01	3.23E-02	85
KI=1013.9;	FE=152	1015.62	2.48E-01	5.90E-02	5.81E-03	24
KI=1019.3;	FE=154	1018.84	2.25E-01	5.52E-02	5.41E-03	66
KI=1020.1;	FE=155	1020.56	3.23E-01	6.54E-02	6.40E-03	55
KI=1022.9;	FE=156	1023.06	2.65E-01	4.63E-02	4.53E-03	100
KI=1025.8;	FE=157	1026.36	2.66E-01	6.15E-02	5.99E-03	92
KI=1028.4;	FE=158	1027.96	9.62E-01	2.16E-01	2.11E-02	41
KI=1031.6;	FE=159	1032.13	3.14E-01	6.16E-02	5.97E-03	74
KI=1033.4;	FE=160	1033.77	3.03E-01	9.54E-02	9.23E-03	10
KI=1034.6;	FE=161	1034.66	8.43E-01	2.81E-01	2.72E-02	20
KI=1036.6;	FE=162	1036.97	2.94E-01	1.02E-01	9.80E-03	11
KI=1038.5;	FE=163	1038.76	2.96E-01	5.56E-02	5.35E-03	57
KI=1040.6;	FE=164	1040.95	9.28E-02	3.77E-02	3.62E-03	5
KI=1043.2;	FE=165	1044.05	5.25E-01	1.18E-01	1.13E-02	85
KI=1046.4;	FE=167	1046.59	2.80E-01	6.99E-02	6.68E-03	20
KI=1049.4;	FE=168	1048.08	3.75E-01	6.53E-02	6.23E-03	88
KI=1050.6;	FE=169	1051.06	4.18E-01	1.07E-01	1.02E-02	19
KI=1053.8;	FE=170	1052.34	4.39E-01	1.06E-01	1.01E-02	41
KI=1055.3;	FE=171	1055.54	3.96E-01	6.95E-02	6.58E-03	79
KI=1057.9;	FE=173	1058.20	2.33E-01	5.88E-02	5.55E-03	55
KI=1060.8;	FE=174	1061.23	2.93E-01	6.86E-02	6.47E-03	41
KI=1062.6;	FE=340	1062.49	3.74E-01	9.33E-02	8.78E-03	33
KI=1064.6;	FE=175	1064.88	4.03E-01	6.30E-02	5.91E-03	78
KI=1066.2;	FE=176	1066.61	4.01E-01	1.18E-01	1.11E-02	19
KI=1070.6;	FE=177	1070.87	3.96E-01	6.87E-02	6.42E-03	65
KI=1072.8;	FE=178	1074.39	1.65E+00	3.67E-01	3.42E-02	56
KI=1079.0;	FE=179	1080.67	1.85E+00	3.21E-01	2.97E-02	45
KI=1081.6;	FE=180	1081.98	4.33E+00	1.86E+00	1.72E-01	15
KI=1084.3;	FE=181	1086.06	3.74E-01	1.64E-01	1.51E-02	5
KI=1087.2;	FE=182	1087.73	5.53E-01	1.43E-01	1.32E-02	23
KI=1089.4;	FE=183	1089.86	9.20E-01	3.90E-01	3.58E-02	7
KI=1093.8;	FE=185	1093.88	1.55E-01	1.10E-01	1.00E-02	2
KI=1096.0;	FE=186	1097.26	9.85E-01	3.73E-01	3.40E-02	10
$1100-n-C11-ANE;	FE=187	1100.00	0.00E+00	0.00E+00	0.00E+00	108
KI=1104.4;	FE=189	1105.17	7.72E-01	2.38E-01	2.16E-02	12
KI=1108.4;	FE=191	1110.26	8.56E-01	1.82E-01	1.64E-02	34
KI=1110.3;	FE=192	1110.19	2.70E-01	9.79E-02	8.82E-03	7
KI=1112.6;	FE=193	1114.43	8.55E-01	1.47E-01	1.32E-02	44
KI=1115.8;	FE=194	1116.02	2.45E+00	8.63E-01	7.73E-02	42
KI=1117.7;	FE=195	1117.28	1.48E+00	6.51E-01	5.82E-02	6
KI=1119.7;	FE=196	1121.39	1.46E-01	1.04E-01	9.24E-03	2
KI=1123.4;	FE=198	1123.54				1
KI=1127.0;	FE=199	1127.28	6.69E-01	1.39E-01	1.23E-02	28
KI=1129.4;	FE=200	1129.98	7.46E-01	1.61E-01	1.42E-02	35
KI=1132.7;	FE=201	1132.19	6.06E-01	1.86E-01	1.64E-02	14
KI=1133.7;	FE=202	1133.63	9.62E-02	6.80E-02	6.00E-03	2

TABLE 31 (cont'd)

KI=1135.0;	FE=203	1134.69	7.65E-01	4.14E-01	3.65E-02	4
KI=1137.1;	FE=204	1136.60	1.51E+00	8.55E-01	7.52E-02	3
KI=1139.7;	FE=205	1142.77	1.73E+00	4.88E-01	4.27E-02	24
KI=1144.0;	FE=207	1147.85	7.49E+00	3.29E+00	2.87E-01	18
KI=1141.0;	FE=206	1145.90	1.01E+00	2.19E-01	1.91E-02	35
KI=1149.8;	FE=209	1153.60	4.79E+00	2.29E+00	1.99E-01	4
KI=1148.3;	FE=208	1153.95	1.45E+00	3.81E-01	3.30E-02	23
KI=1155.0;	FE=211	1154.11	5.08E-02	2.54E-02	2.20E-03	3
KI=1152.6;	FE=210	1156.21	5.16E-01	2.90E-01	2.51E-02	3
KI=1156.1;	FE=212	1160.17	7.63E-01	1.89E-01	1.63E-02	24
KI=1159.8;	FE=214	1164.42	4.58E+00	7.24E-01	6.22E-02	38
KI=1164.2;	FE=216	1170.27	6.58E+00	1.81E+00	1.55E-01	23
KI=1161.8;	FE=215	1166.13				1
KI=1170.4;	FE=217	1174.17	3.90E+00	7.03E-01	5.99E-02	31
KI=1175.9;	FE=219	1176.28	7.30E+00	3.45E+00	2.94E-01	7
KI=1171.4;	FE=218	1177.21				1
KI=1179.7;	FE=220	1182.11				1
KI=1181.4;	FE=221	1183.47	6.15E-01	3.28E-01	2.77E-02	3
KI=1185.3;	FE=222	1187.76	4.30E-02	3.04E-02	2.56E-03	2
KI=1189.6;	FE=223	1191.44	9.79E-01	3.74E-01	3.14E-02	9
KI=1191.5;	FE=224	1192.95				1
KI=1193.9;	FE=225	1196.57				1
$1200-n-C12-ANE;	FE=227	1200.00	0.00E+00	0.00E+00	0.00E+00	85
KI=1205.6;	FE=229	1205.50	7.85E-01	4.28E-01	3.55E-02	3
KI=1207.2;	FE=230	1206.79	5.30E-02	3.75E-02	3.10E-03	2
KI=1210.9;	FE=231	1210.15	9.91E-02	7.01E-02	5.79E-03	2
KI=1214.2;	FE=232	1214.34	1.02E+00	2.33E-01	1.92E-02	20
KI=1218.2;	FE=233	1217.70	8.08E-02	5.71E-02	4.69E-03	2
KI=1220.0;	FE=234	1219.71	1.25E-01	8.80E-02	7.22E-03	2
KI=1221.7;	FE=235	1221.38	7.93E-02	5.61E-02	4.59E-03	2
KI=1224.3;	FE=236	1224.00	1.13E-01	8.01E-02	6.54E-03	2
KI=1227.8;	FE=237	1228.15	1.49E-01	1.05E-01	8.56E-03	2
KI=1233.9;	FE=238	1234.40	9.09E-01	3.80E-01	3.08E-02	8
KI=1238.6;	FE=239	1239.04	7.70E-01	4.35E-01	3.51E-02	3
KI=1241.7;	FE=240	1245.25	1.45E-01	1.03E-01	8.23E-03	2
KI=1245.4;	FE=241	1248.66	5.69E-01	4.03E-01	3.22E-02	2
KI=1248.5;	FE=242	1252.72	7.55E-01	4.27E-01	3.41E-02	3
KI=1252.8;	FE=243	1254.53	4.96E-02	3.50E-02	2.79E-03	2
KI=1254.8;	FE=244	1256.31	1.32E-01	9.30E-02	7.41E-03	2
KI=1259.3;	FE=245	1259.13	5.73E-01	3.26E-01	2.59E-02	3
KI=1264.0;	FE=246	1264.14	1.22E+00	5.09E-01	4.03E-02	5
KI=1267.6;	FE=247	1267.35	1.18E-01	8.34E-02	6.58E-03	2
KI=1270.2;	FE=248	1270.20	8.76E-01	4.93E-01	3.88E-02	3
KI=1273.1;	FE=249	1273.07	7.21E-01	3.28E-01	2.58E-02	5
KI=1276.1;	FE=250	1275.32	4.96E-02	3.50E-02	2.75E-03	2
KI=1277.5;	FE=251	1277.03	2.50E-01	1.77E-01	1.38E-02	2
KI=1282.7;	FE=253	1285.22	1.23E+00	3.71E-01	2.89E-02	17
KI=1285.6;	FE=254	1287.49	1.08E+00	6.17E-01	4.79E-02	3
KI=1288.3;	FE=255	1289.90	1.05E-02	7.43E-03	5.76E-04	2

TABLE 31 (concluded)

KI=1294.2;	FE=256	1295.66	5.05E-02	3.57E-02	2.76E-03	2
$1300-n-C13-ANE;	FE=257	1300.00	0.00E+00	0.00E+00	0.00E+00	30
KI=1304.4;	FE=258	1303.80	1.99E+00	1.40E+00	1.08E-01	2
KI=1309.6;	FE=259	1309.90	7.35E-02	5.20E-02	3.97E-03	2
KI=1318.0;	FE=262	1317.70	1.07E-01	7.60E-02	5.76E-03	2
KI=1323.1;	FE=263	1322.16	1.18E-01	8.34E-02	6.31E-03	2
KI=1333.4;	FE=265	1334.17	2.29E-02	1.62E-02	1.22E-03	2
KI=1338.4;	FE=266	1339.52	6.84E-02	4.83E-02	3.61E-03	2
KI=1342.2;	FE=267	1341.84	4.20E-02	2.97E-02	2.21E-03	2
KI=1344.5;	FE=268	1345.14	4.93E-02	3.49E-02	2.59E-03	2
KI=1347.5;	FE=269	1347.73	6.10E-03	4.32E-03	3.20E-04	2
KI=1351.1;	FE=270	1351.98	1.17E-02	8.29E-03	6.13E-04	2
KI=1364.0;	FE=273	1362.03				1
KI=1376.7;	FE=275	1375.57	1.27E-01	8.96E-02	6.51E-03	2
KI=1383.0;	FE=276	1384.48	1.83E-01	1.29E-01	9.33E-03	2
KI=1388.6;	FE=277	1388.85	1.22E-02	8.63E-03	6.21E-04	2
KI=1393.4;	FE=278	1391.90	2.20E-02	1.55E-02	1.12E-03	2
$1400-n-C14-ANE;	FE=279	1400.00	0.00E+00	0.00E+00	0.00E+00	2
KI=1411.1;	FE=282	1411.76	1.09E-01	7.72E-02	5.47E-03	2
KI=1427.2;	FE=286	1427.89	3.49E-02	2.47E-02	1.73E-03	2
KI=1430.3;	FE=287	1430.27	6.23E-02	4.40E-02	3.08E-03	2
KI=1446.1;	FE=290	1445.56	8.01E-02	5.66E-02	3.92E-03	2
KI=1450.5;	FE=291	1449.43	4.39E-03	3.11E-03	2.14E-04	2
KI=1458.7;	FE=293	1457.83	3.88E-02	2.74E-02	1.88E-03	2
KI=1470.7;	FE=295	1470.73	7.45E-02	5.27E-02	3.58E-03	2
$1500-n-C15-ANE;	FE=296	1500.00	0.00E+00	0.00E+00	0.00E+00	4
TOTAL CONCENTRATION		5000.00	0.00E+00	0.00E+00	0.00E+00	110

TABLE 32. REP8 OUTPUT OF A DATABASE CONTAINING DUPLICATE VAPOR PHASE ANALYSES OF ONE PETROLEUM-DERIVED JP-5 AND ONE SHALE-DERIVED JP-4 FUEL IN UNITS OF PPM-MF

CONCENTRATIONS OF NAMED COMPOUNDS IN SAMPLES
IN DATA BASE MH04
NUMBER OF SAMPLES= 4

COMPOUND NAME		SAMPLE NAME 606JP5VP01 (ppm-MF)	606JP5VP02 (ppm-MF)	640JP4VP02 (ppm-MF)	640JP4VP01 (ppm-MF)
PROCESSED FILE		BKP080	BKP081	BKP166	BKP165
$200-n-C2-ANE;	FE=341	1.7179	1.6665	2.0846	3.7668
$300-n-C3-ANE;	FE=001	.5945	.6752	11.6214	9.9251
KI= 388.0;	FE=002	1.3734	1.3926	7.0194	5.7815
$400-n-C4-ANE;	FE=003	5.2989	5.4270	26.8987	22.7225
KI= 457.6;	FE=004	4.2595	4.5529	193.0152	162.8397
KI= 483.0;	FE=302	0.0000	0.0000	0.0000	.3650
$500-n-C5-ANE;	FE=005	4.3841	3.9244	890.6261	751.2562
KI= 518.5;	FE=009	0.0000	0.0000	13.1576	11.1680
KI= 542.9;	FE=310	0.0000	0.0000	0.0000	.6942
KI= 549.7;	FE=010	0.0000	0.0000	137.0835	117.0542
KI= 552.4;	FE=011	0.0000	0.0000	207.9365	176.0695
KI= 560.4;	FE=012	.5091	.7734	1776.6072	1501.2000
KI= 577.3;	FE=013	0.0000	0.0000	912.2241	771.0732
KI= 589.7;	FE=314	0.0000	0.0000	1.9464	1.5660
$600-n-C6-ANE;	FE=014	.9406	1.2841	2232.0449	1887.9158
KI= 611.2;	FE=016	0.0000	0.0000	.6259	0.0000
KI= 624.8;	FE=018	1.0041	.9362	809.5188	684.7913
KI= 632.4;	FE=020	0.0000	0.0000	105.8804	89.6257
KI= 653.0;	FE=021	0.0000	0.0000	19.3531	16.5911
KI= 656.1;	FE=022	.7502	.9133	760.5979	643.3582
KI= 658.8;	FE=023	0.0000	0.0000	184.6922	155.6428
KI= 669.0;	FE=024	0.0000	0.0000	574.3120	484.7913
KI= 671.9;	FE=324	0.0000	0.0000	580.1440	491.3427
KI= 673.9;	FE=325	0.0000	0.0000	1.2566	.8086
KI= 677.4;	FE=026	.8207	.8813	1206.5940	1020.7495
KI= 679.8;	FE=027	0.0000	0.0000	158.7963	134.2587
KI= 682.0;	FE=028	0.0000	0.0000	131.8134	111.5054
KI= 684.6;	FE=029	0.0000	0.0000	305.2359	257.7687
KI= 685.8;	FE=030	.4183	.5448	76.2823	64.9472
KI= 692.2;	FE=328	0.0000	0.0000	1.7604	1.4459
$700-n-C7-ANE;	FE=031	2.2219	2.3068	1481.2988	1253.3369
KI= 701.8;	FE=032	0.0000	0.0000	.4449	0.0000
KI= 708.0;	FE=035	0.0000	0.0000	.7400	.7581

TABLE 32 (cont'd)

KI= 712.5;	FE=036	4.1908	4.4208	1650.5378	1394.8037
KI= 715.6;	FE=037	0.0000	0.0000	37.1333	31.4324
KI= 719.1;	FE=038	0.0000	0.0000	5.3376	4.4627
KI= 725.8;	FE=039	.8693	.8282	177.2326	149.8467
KI= 731.0;	FE=041	0.0000	0.0000	185.1708	156.6388
KI= 733.6;	FE=042	0.0000	0.0000	85.0628	71.9114
KI= 735.0;	FE=043	0.0000	0.0000	12.0042	10.0803
KI= 741.2;	FE=044	0.0000	0.0000	76.8084	64.8483
KI= 743.3;	FE=045	0.0000	0.0000	15.9997	13.5574
KI= 745.4;	FE=046	0.0000	0.0000	1.6258	1.3892
KI= 749.9;	FE=047	0.0000	0.0000	1.1237	.9684
KI= 753.9;	FE=048	0.0000	0.0000	36.5761	30.5809
KI= 757.1;	FE=049	0.0000	0.0000	162.1062	136.4122
KI= 758.8;	FE=050	2.2422	2.3063	936.0757	786.5250
KI= 765.3;	FE=052	.9961	1.3188	579.8052	489.0063
KI= 766.4;	FE=053	0.0000	0.0000	216.9959	182.3351
KI= 768.8;	FE=054	1.4074	1.5014	427.0333	359.1848
KI= 770.6;	FE=055	0.0000	0.0000	158.8613	132.5139
KI= 772.4;	FE=056	.7775	.8811	330.9623	280.3566
KI= 775.2;	FE=057	0.0000	0.0000	34.4465	28.7919
KI= 781.0;	FE=058	.6229	.6682	63.7265	53.7033
KI= 783.2;	FE=059	0.0000	0.0000	52.4224	44.2029
KI= 784.4;	FE=060	.5576	0.0000	103.1039	86.9671
KI= 786.9;	FE=062	.8281	.8282	218.6165	184.0587
KI= 791.1;	FE=063	0.0000	0.0000	6.8786	6.4433
KI= 794.4;	FE=064	0.0000	0.0000	16.7545	14.2576
KI= 795.7;	FE=065	1.6890	1.6002	261.8812	220.9004
#500-n-C8-ANE;	FE=066	3.9821	4.0550	523.6932	441.9641
KI= 801.7;	FE=336	0.0000	0.0000	25.5270	21.6536
KI= 805.7;	FE=068	0.0000	0.0000	1.4273	1.2729
KI= 807.1;	FE=069	0.0000	0.0000	5.2239	4.4900
KI= 812.3;	FE=071	0.0000	0.0000	4.3085	3.6423
KI= 813.6;	FE=072	0.0000	0.0000	23.4940	19.7546
KI= 818.2;	FE=074	0.0000	0.0000	100.3891	93.1326
KI= 821.3;	FE=075	0.0000	0.0000	16.7462	17.3015
KI= 823.0;	FE=337	0.0000	0.0000	13.0383	12.8823
KI= 824.2;	FE=076	1.5713	1.5480	170.8008	146.4654
KI= 825.7;	FE=077	0.0000	0.0000	46.5924	40.6785
KI= 828.1;	FE=078	2.0676	2.0417	322.1195	274.0832
KI= 834.4;	FE=079	0.0000	3.8752	84.5107	71.7399
KI= 837.0;	FE=080	0.0000	0.0000	13.6697	11.5645
KI= 840.8;	FE=081	0.0000	0.0000	9.1727	7.6427
KI= 842.7;	FE=082	2.5666	2.4996	112.3717	94.6339
KI= 844.2;	FE=083	0.0000	0.0000	15.4108	13.3876
KI= 846.2;	FE=084	0.0000	0.0000	5.3537	4.4672
KI= 848.2;	FE=085	0.0000	0.0000	17.5604	14.8356
KI= 850.9;	FE=086	0.0000	0.0000	4.8240	4.0296
KI= 852.8;	FE=087	0.0000	0.0000	6.7331	5.6149
KI= 854.4;	FE=088	0.0000	0.0000	120.9554	97.7264

TABLE 32 (cont'd)

KI= 856.1;	FE=089	1.3809	1.5744	0.0000	0.0000
KI= 860.0;	FE=090	0.0000	0.0000	24.2278	20.5787
KI= 863.8;	FE=092	5.4907	0.0000	299.6900	250.8971
KI= 865.0;	FE=093	3.2280	1.9078	64.6303	57.0451
KI= 867.4;	FE=094	.7299	0.0000	41.0639	34.6929
KI= 871.2;	FE=096	5.8637	5.4724	141.7467	120.5082
KI= 873.1;	FE=097	1.0161	1.0072	31.1913	26.4246
KI= 877.1;	FE=098	0.0000	0.0000	7.0276	5.9488
KI= 880.0;	FE=099	7.6991	7.1334	74.9422	63.7028
KI= 881.6;	FE=100	3.2757	3.1156	34.6380	29.5587
KI= 884.5;	FE=102	1.6899	1.3686	82.8954	69.3748
KI= 892.6;	FE=105	1.3849	0.0000	26.6915	22.7008
KI= 894.6;	FE=106	.7113	.6514	0.0000	0.0000
KI= 897.6;	FE=108	0.0000	0.0000	21.2197	17.9499
$900-n-C9-ANE;	FE=109	14.7101	13.3110	206.6024	177.3905
KI= 901.3;	FE=110	1.6406	1.5443	13.3659	11.5634
KI= 908.4;	FE=112	3.7043	3.2279	0.0000	0.0000
KI= 910.8;	FE=113	.5472	0.0000	8.6273	7.4295
KI= 913.9;	FE=114	1.4981	1.3142	7.4807	6.4735
KI= 917.7;	FE=116	3.6907	1.8135	3.6781	3.2602
KI= 920.1;	FE=117	5.6656	4.1224	19.1252	16.4759
KI= 922.6;	FE=118	5.8874	4.1683	36.4600	31.5236
KI= 924.7;	FE=119	3.8434	2.9567	8.0807	7.0604
KI= 929.1;	FE=120	5.0833	4.3754	20.6531	18.0299
KI= 933.5;	FE=122	19.2347	16.3829	57.3582	49.9532
KI= 939.4;	FE=123	3.9479	3.3956	33.7989	29.3418
KI= 941.0;	FE=124	.5168	0.0000	1.5409	1.3238
KI= 945.3;	FE=125	4.3847	.5975	25.7679	22.4489
KI= 947.4;	FE=126	3.6162	3.0504	8.3499	7.1201
KI= 952.0;	FE=127	8.8880	7.9698	8.2623	7.3377
KI= 953.5;	FE=128	12.6542	13.8884	11.7232	10.0770
KI= 955.6;	FE=339	0.0000	0.0000	7.0321	6.3332
KI= 956.8;	FE=130	3.4803	14.9228	20.6036	18.5981
KI= 960.5;	FE=131	1.1440	4.6158	0.0000	0.0000
KI= 962.1;	FE=132	10.2354	15.6064	35.0867	30.7873
KI= 964.7;	FE=133	0.0000	0.0000	8.3701	7.1879
KI= 966.1;	FE=134	21.3955	23.3288	11.6794	10.1486
KI= 967.4;	FE=135	14.2020	17.4344	24.0660	21.1199
KI= 970.8;	FE=136	17.4019	15.8559	13.4765	11.7589
KI= 974.9;	FE=138	7.4306	6.5269	7.4640	6.4430
KI= 976.9;	FE=139	19.0412	15.0674	18.0516	15.9099
KI= 979.2;	FE=140	9.4307	11.3765	13.0590	11.5306
KI= 980.2;	FE=141	5.2586	0.0000	0.0000	0.0000
KI= 981.7;	FE=142	6.6420	5.1092	1.9124	1.7559
KI= 983.3;	FE=143	10.1985	7.7532	0.0000	0.0000
KI= 986.2;	FE=144	24.2246	17.9596	24.0268	20.8065
KI= 989.0;	FE=145	0.0000	0.0000	5.7180	4.9007
KI= 993.5;	FE=146	9.7955	7.9702	5.2432	4.6330
KI= 995.3;	FE=147	2.2202	1.8943	.9253	.8283

TABLE 32 (cont'd)

KI= 996.8;	FE=148	4.2148	3.3251	.6484	.5764
$1000-n-C10-ANE;	FE=149	47.5951	32.9825	72.4966	64.5705
KI=1003.9;	FE=150	8.9436	6.4623	4.4772	4.0977
KI=1009.0;	FE=151	6.9473	4.7980	.7149	.7321
KI=1017.0;	FE=153	18.9925	10.8572	2.7826	2.4212
KI=1013.9;	FE=152	0.0000	0.0000	11.3925	9.8211
KI=1019.3;	FE=154	3.8058	.4368	0.0000	0.0000
KI=1020.1;	FE=155	11.5328	4.0005	2.4225	1.6934
KI=1022.9;	FE=156	15.5929	8.2707	17.4409	15.1200
KI=1025.8;	FE=157	9.7488	6.3479	5.5879	5.6268
KI=1028.4;	FE=158	37.5151	23.6850	.5986	1.0577
KI=1031.6;	FE=159	12.0345	6.4526	5.0639	4.4552
KI=1033.4;	FE=160	0.0000	0.0000	1.5933	1.3826
KI=1034.6;	FE=161	14.9525	.8888	.9861	0.0000
KI=1038.5;	FE=163	5.2326	2.6732	3.4961	3.1337
KI=1040.6;	FE=164	1.2266	.7537	0.0000	0.0000
KI=1043.2;	FE=165	11.8925	7.6495	12.3125	11.4527
KI=1049.4;	FE=168	18.6391	12.1012	11.1161	9.8472
KI=1050.6;	FE=169	.4652	0.0000	1.0620	2.0933
KI=1053.8;	FE=170	9.0988	12.5157	1.4681	2.5884
KI=1055.3;	FE=171	6.5094	4.0754	3.2013	2.7288
KI=1057.9;	FE=173	12.1250	6.4003	3.1718	2.7433
KI=1060.8;	FE=174	12.6330	5.2514	1.6896	1.4400
KI=1064.6;	FE=175	14.6870	6.4969	2.1380	1.9253
KI=1066.2;	FE=176	3.2711	1.4109	0.0000	0.0000
KI=1070.6;	FE=177	13.4877	9.1434	3.4269	3.0112
KI=1072.8;	FE=178	3.8652	9.3525	4.5496	4.0401
KI=1079.0;	FE=179	26.3584	15.3597	2.2495	2.4528
KI=1081.6;	FE=180	1.7116	.6880	0.0000	0.0000
KI=1087.2;	FE=182	3.9029	2.2591	2.7306	2.3726
KI=1089.4;	FE=183	.4813	0.0000	.4508	0.0000
KI=1093.8;	FE=185	2.1901	1.2134	0.0000	0.0000
KI=1096.0;	FE=186	2.1227	0.0000	3.5392	2.9459
$1100-n-C11-ANE;	FE=187	45.1283	23.9056	45.6866	37.2016
KI=1104.4;	FE=189	2.7010	1.3560	1.0709	1.2967
KI=1108.4;	FE=191	2.1686	1.1993	2.2772	1.9076
KI=1112.6;	FE=193	5.1641	2.6448	.6550	.7021
KI=1115.8;	FE=194	1.5799	.7751	1.1953	1.0004
KI=1119.7;	FE=196	.5036	0.0000	0.0000	0.0000
KI=1123.4;	FE=198	1.2394	0.0000	0.0000	0.0000
KI=1127.0;	FE=199	3.4397	1.4420	2.1899	1.6864
KI=1129.4;	FE=200	2.4791	1.1039	2.2336	1.7637
KI=1132.7;	FE=201	8.3910	4.1554	.8401	.8560
KI=1135.0;	FE=203	.9934	0.0000	0.0000	0.0000
KI=1139.7;	FE=205	13.3655	7.9355	3.6009	2.6671
KI=1144.0;	FE=207	7.9569	3.8891	2.6592	1.4959
KI=1148.3;	FE=208	20.2350	9.8290	4.3641	3.4324
KI=1152.6;	FE=210	4.7410	1.4514	0.0000	0.0000
KI=1156.1;	FE=212	3.2550	1.4876	.7275	0.0000

TABLE 32 (concluded)

KI=1159.8;	FE=214	7.9088	3.7958	1.6176	.9203
KI=1164.2;	FE=216	6.2844	3.1162	4.0748	2.5564
KI=1170.4;	FE=217	.7696	0.0000	0.0000	0.0000
KI=1171.4;	FE=218	1.6141	0.0000	0.0000	0.0000
KI=1179.7;	FE=220	1.3155	.4998	1.9138	1.4228
KI=1181.4;	FE=221	.6398	0.0000	0.0000	0.0000
KI=1185.3;	FE=222	3.2440	1.0896	0.0000	0.0000
KI=1189.6;	FE=223	3.2850	1.8817	2.8861	2.2468
$1200-n-C12-ANE;	FE=227	14.4376	6.9680	18.4380	14.9046
KI=1207.2;	FE=230	1.3535	0.0000	0.0000	.7026
KI=1214.2;	FE=232	3.6074	1.6784	6.6273	5.6609
KI=1218.2;	FE=233	1.2125	0.0000	0.0000	0.0000
KI=1233.9;	FE=238	3.0549	0.0000	1.3152	0.0000
KI=1245.4;	FE=241	1.5634	0.0000	0.0000	0.0000
KI=1254.8;	FE=244	1.6795	0.0000	0.0000	0.0000
KI=1259.3;	FE=245	1.9217	0.0000	0.0000	0.0000
KI=1264.0;	FE=246	1.9460	0.0000	0.0000	0.0000
KI=1270.2;	FE=248	1.2608	0.0000	0.0000	0.0000
KI=1273.1;	FE=249	0.0000	0.0000	1.5530	1.5672
KI=1282.7;	FE=253	2.8438	1.5224	0.0000	0.0000
$1300-n-C13-ANE;	FE=257	1.2941	1.6291	3.0007	3.2590
TOTAL CONCENTRATION		893.6362	624.1918	22192.5000	18790.0550
CONC. NAMED PEAKS (ppm-MF)		8.691E+02	6.126E+02	2.212E+04	1.873E+04
TOTAL CONC(ppm-MF)		8.936E+02	6.242E+02	2.219E+04	1.879E+04
% CONC. NAMED VS. TOTAL		97.25426	98.14761	99.66930	99.65529
NO. OF NAMED PEAKS		137	114	172	169
TOTAL NO. OF PEAKS		148	120	181	177
% NAMED VS. TOTAL PEAKS		92.56757	95.00000	95.02762	95.48022

TABLE 33. REP8 OUTPUT OF A DATA BASE CONTAINING DUPLICATE VAPOR PHASE ANALYSES OF ONE PETROLEUM-DERIVED JP-5 AND ONE SHALE-DERIVED JP-4 FUEL IN UNITS OF %REL (RELATIVE TO THE VAPOR PHASE ANALYSIS OF THE REFERENCE JP-4 FUEL)

CONCENTRATIONS OF NAMED COMPOUNDS IN SAMPLES
IN DATA BASE MH13
NUMBER OF SAMPLES= 4

COMPOUND NAME		SAMPLE NAME 606JP5VP01 (% REL.)	606JP5VP02 (% REL.)	640JP4VP02 (% REL.)	640JP4VP01 (% REL.)
PROCESSED FILE		BIP080	BIP081	BIP166	BIP165
$200-n-C2-ANE;	FE=341	3.7859	3.6727	4.5942	8.3013
$300-n-C3-ANE;	FE=001	.0284	.0323	.5558	.4747
KI= 388.0;	FE=002	.0674	.0683	.3442	.2835
$400-n-C4-ANE;	FE=003	.0572	.0586	.2905	.2454
KI= 457.6;	FE=004	.0474	.0507	2.1476	1.8119
KI= 483.0;	FE=302	0.0000	0.0000	0.0000	.3919
$500-n-C5-ANE;	FE=005	.0905	.0810	18.3785	15.5025
KI= 518.5;	FE=009	0.0000	0.0000	1.9210	1.6305
KI= 542.9;	FE=310	0.0000	0.0000	0.0000	7.6181
KI= 549.7;	FE=010	0.0000	0.0000	12.6830	10.8299
KI= 552.4;	FE=011	0.0000	0.0000	15.7068	13.2997
KI= 560.4;	FE=012	.0107	.0163	37.3403	31.5518
KI= 577.3;	FE=013	0.0000	0.0000	24.7614	20.9300
KI= 589.7;	FE=314	0.0000	0.0000	8.1454	6.5536
#600-n-C6-ANE;	FE=014	.0132	.0180	31.3562	26.5218
KI= 611.2;	FE=016	0.0000	0.0000	1.1699	0.0000
KI= 624.8;	FE=018	.9620	.8969	775.5726	656.0753
KI= 632.4;	FE=020	0.0000	0.0000	22.7962	19.2965
KI= 653.0;	FE=021	0.0000	0.0000	8.6470	7.4129
KI= 656.1;	FE=022	.0340	.0414	34.4875	29.1715
KI= 658.8;	FE=023	0.0000	0.0000	14.8847	12.5435
KI= 669.0;	FE=024	0.0000	0.0000	65.2893	55.1123
KI= 670.4;	FE=025	0.0000	0.0000	26.3842	22.3456
KI= 674.8;	FE=326	0.0000	0.0000	16.1868	10.4155
KI= 677.4;	FE=026	.0344	.0369	50.5149	42.7344
KI= 679.8;	FE=027	0.0000	0.0000	35.5653	30.0697
KI= 682.0;	FE=028	0.0000	0.0000	32.1052	27.1588
KI= 684.6;	FE=029	0.0000	0.0000	41.3271	34.9003
KI= 685.8;	FE=030	.2206	.2874	40.2393	34.2600
KI= 692.2;	FE=328	0.0000	0.0000	15.7256	12.9159
$700-n-C7-ANE;	FE=031	.0714	.0741	47.6067	40.2804
KI= 701.8;	FE=032	0.0000	0.0000	3.0863	0.0000

TABLE 33 (cont'd)

KI= 708.0;	FE=035	0.0000	0.0000	3.9134	4.0090
KI= 712.5;	FE=036	.2220	.2342	87.4371	73.8896
KI= 715.6;	FE=037	0.0000	0.0000	24.8448	21.0305
KI= 719.1;	FE=038	0.0000	0.0000	5.6327	4.7094
KI= 725.8;	FE=039	.5490	.5230	111.9211	94.6271
KI= 731.0;	FE=041	0.0000	0.0000	57.2017	48.3878
KI= 733.6;	FE=042	0.0000	0.0000	65.2173	55.1342
KI= 735.0;	FE=043	0.0000	0.0000	11.2610	9.4562
KI= 741.2;	FE=044	0.0000	0.0000	64.9168	54.8084
KI= 743.3;	FE=045	0.0000	0.0000	47.5147	40.2617
KI= 745.4;	FE=046	0.0000	0.0000	5.8352	4.9862
KI= 749.9;	FE=047	0.0000	0.0000	10.8483	9.3484
KI= 753.9;	FE=048	0.0000	0.0000	94.8470	79.3005
KI= 757.1;	FE=049	0.0000	0.0000	65.0365	54.7281
KI= 762.0;	FE=051	0.0000	0.0000	4536.8955	3812.0654
KI= 758.8;	FE=050	.2948	.3032	0.0000	0.0000
KI= 765.3;	FE=052	.1101	.1458	64.0906	54.0538
KI= 766.4;	FE=053	0.0000	0.0000	65.3308	54.8955
KI= 768.8;	FE=054	.6095	.6502	184.9382	155.5546
KI= 770.6;	FE=055	0.0000	0.0000	130.9164	109.2037
KI= 772.4;	FE=056	.0822	.0931	34.9709	29.6237
KI= 775.2;	FE=057	0.0000	0.0000	79.8141	66.7122
KI= 781.0;	FE=058	1.2900	1.3838	131.9734	111.2160
KI= 783.2;	FE=059	0.0000	0.0000	188.8525	159.2416
KI= 784.4;	FE=060	.9893	0.0000	182.9486	154.3153
KI= 786.9;	FE=062	.7824	.7825	206.5675	173.9143
KI= 791.1;	FE=063	0.0000	0.0000	188.3037	176.3870
KI= 794.4;	FE=064	0.0000	0.0000	71.5948	60.9250
KI= 795.7;	FE=065	2.9548	2.7994	458.1383	386.4459
#800-n-C8-ANE;	FE=066	.4986	.5077	65.5722	55.3388
KI= 801.7;	FE=336	0.0000	0.0000	387.7940	328.9508
KI= 805.7;	FE=068	0.0000	0.0000	23.2066	20.6966
KI= 807.1;	FE=069	0.0000	0.0000	60.7954	52.2547
KI= 812.3;	FE=071	0.0000	0.0000	30.8586	26.0874
KI= 813.6;	FE=072	0.0000	0.0000	297.2782	249.9631
KI= 818.2;	FE=074	0.0000	0.0000	437.2832	405.6747
KI= 821.3;	FE=075	0.0000	0.0000	36.0055	37.1995
KI= 823.0;	FE=337	0.0000	0.0000	228.3481	225.6165
KI= 824.2;	FE=076	1.6935	1.6683	184.0830	157.8552
KI= 825.7;	FE=077	0.0000	0.0000	195.6141	170.7850
KI= 828.1;	FE=078	1.9653	1.9407	306.1853	260.5252
KI= 834.4;	FE=079	0.0000	3.2655	71.2138	60.4524
KI= 837.0;	FE=080	0.0000	0.0000	283.8337	240.1210
KI= 840.8;	FE=081	0.0000	0.0000	250.0516	208.3433
KI= 842.7;	FE=082	7.6072	7.4086	333.0660	280.4918
KI= 844.2;	FE=083	0.0000	0.0000	168.1600	146.0837
KI= 846.2;	FE=084	0.0000	0.0000	146.1533	121.9513
KI= 848.2;	FE=085	0.0000	0.0000	997.1100	842.3912
KI= 850.9;	FE=086	0.0000	0.0000	167.0007	139.5008

TABLE 33 (cont'd)

KI= 852.8;	FE=087	0.0000	0.0000	50.9228	42.4660
KI= 854.4;	FE=088	0.0000	0.0000	37.6490	36.9324
KI= 856.1;	FE=089	8.4026	9.5800	735.9912	594.6473
KI= 860.0;	FE=090	0.0000	0.0000	173.5550	147.4146
KI= 863.8;	FE=092	2.2978	.7984	125.4169	104.9977
KI= 865.0;	FE=093	3.8107	0.0000	0.0000	0.0000
KI= 867.4;	FE=094	15.9764	0.0000	898.8213	759.3694
KI= 871.2;	FE=096	7.7384	7.2221	187.0666	159.0377
KI= 873.1;	FE=097	27.3873	27.1467	840.6914	712.2148
KI= 877.1;	FE=098	0.0000	0.0000	206.5086	174.8085
KI= 880.0;	FE=099	26.3914	24.4520	256.8902	218.3633
KI= 881.6;	FE=100	27.8318	26.4714	294.2955	251.1398
KI= 884.5;	FE=102	3.1550	2.5551	154.7647	130.4555
KI= 892.6;	FE=105	133.0784	0.0000	2564.8936	2181.4141
KI= 894.6;	FE=106	44.8184	41.0482	1291.8730	1102.7402
KI= 897.6;	FE=108	0.0000	0.0000	393.7019	333.0355
$900-n-C9-ANE;	FE=109	14.1522	12.8062	198.7665	170.6626
KI= 901.3;	FE=110	79.0050	74.3698	643.6609	556.8580
KI= 908.4;	FE=112	35.7271	31.1328	0.0000	0.0000
KI= 910.8;	FE=113	16.0536	0.0000	253.0906	217.9512
KI= 913.9;	FE=114	78.4077	68.7823	391.5283	338.8105
KI= 917.7;	FE=116	76.1708	37.4282	75.9093	67.2845
KI= 920.1;	FE=117	74.9377	54.5265	252.9666	217.9251
KI= 922.6;	FE=118	48.5422	34.3685	300.6177	259.9162
KI= 924.7;	FE=119	72.2176	55.5574	151.8372	132.6655
KI= 929.1;	FE=120	62.7609	54.0213	254.9932	222.6060
KI= 933.5;	FE=122	121.3621	103.3689	361.9045	315.1821
KI= 939.4;	FE=123	60.0307	51.6337	513.9425	446.1682
KI= 941.0;	FE=124	0.0000	0.0000	0.0000	0.0000
KI= 945.3;	FE=125	73.7604	10.0505	433.4721	377.6402
KI= 947.4;	FE=126	52.4549	44.2472	121.1206	103.2811
KI= 952.0;	FE=127	635.8438	570.1511	591.0804	524.9344
KI= 953.5;	FE=128	377.2891	414.0868	349.5295	300.4495
KI= 955.6;	FE=339	0.0000	0.0000	623.5396	561.5693
KI= 955.8;	FE=129	14.6407	62.7760	86.6734	78.2372
KI= 956.8;	FE=130	0.0000	0.0000	0.0000	0.0000
KI= 960.5;	FE=131	95.1447	383.8870	0.0000	0.0000
KI= 962.1;	FE=132	173.8067	265.0118	595.8055	522.7972
KI= 964.7;	FE=133	0.0000	0.0000	95.4634	81.9800
KI= 966.1;	FE=134	162.5941	177.2860	88.7569	77.1239
KI= 967.4;	FE=135	304.6929	374.0399	516.3154	453.1102
KI= 970.8;	FE=136	275.6864	251.1945	213.5001	186.2884
KI= 974.9;	FE=138	0.0000	0.0000	0.0000	0.0000
KI= 976.9;	FE=139	279.6674	221.3014	265.1323	233.6767
KI= 979.2;	FE=140	256.8560	309.8524	355.6774	314.0510
KI= 980.2;	FE=141	0.0000	0.0000	0.0000	0.0000
KI= 981.7;	FE=142	348.6481	268.1884	100.3830	92.1696
KI= 983.3;	FE=143	1238.2522	941.3623	0.0000	0.0000
KI= 986.2;	FE=144	80.3202	59.5477	79.6644	68.9868

TABLE 33 (cont'd)

KI= 989.0;	FE=145	0.0000	0.0000	0.0000	0.0000
KI= 993.5;	FE=146	498.6277	405.7150	266.8999	235.8393
KI= 995.3;	FE=147	38.5798	32.9174	16.0788	14.3929
KI= 996.8;	FE=148	114.2898	90.1622	17.5817	15.6284
$1000-n-C10-ANE;	FE=149	184.6990	127.9929	281.3328	250.5744
KI=1003.9;	FE=150	287.6109	207.8176	143.9773	131.7734
KI=1009.0;	FE=151	453.7610	313.3821	44.7946	47.8174
KI=1013.9;	FE=152	202.3521	115.6762	121.3795	104.6370
KI=1017.0;	FE=153	33.3188	10.3032	17.9436	15.6133
KI=1019.3;	FE=154	345.1396	39.6121	0.0000	0.0000
KI=1020.1;	FE=155	901.8285	312.8278	189.4303	132.4190
KI=1022.9;	FE=156	335.7698	178.0980	375.5626	325.5870
KI=1025.8;	FE=157	367.1434	239.0619	210.4406	211.9055
KI=1028.4;	FE=158	921.7334	581.9340	14.7084	25.9872
KI=1031.6;	FE=159	770.4012	413.0690	324.1716	285.2055
KI=1033.4;	FE=160	0.0000	0.0000	0.0000	0.0000
KI=1034.6;	FE=161	1082.7473	64.3599	71.4055	0.0000
KI=1038.5;	FE=163	427.5691	218.4374	285.6793	256.0651
KI=1040.6;	FE=164	0.0000	0.0000	0.0000	0.0000
KI=1043.2;	FE=165	410.3115	263.9213	424.8000	395.1349
KI=1046.4;	FE=167	386.9911	251.2504	230.7973	204.4508
KI=1049.4;	FE=168	46.4317	0.0000	105.9945	208.9207
KI=1050.6;	FE=169	571.6633	786.3425	92.2368	162.6277
KI=1053.8;	FE=170	230.0254	144.0141	113.1261	96.4273
KI=1057.9;	FE=173	482.3286	254.6014	126.1742	109.1252
KI=1060.8;	FE=174	1469.3411	610.7826	196.5111	167.4823
KI=1064.6;	FE=175	471.6127	208.6206	68.6521	61.8232
KI=1066.2;	FE=176	0.0000	0.0000	0.0000	0.0000
KI=1070.6;	FE=177	429.1368	290.9153	109.0345	95.8084
KI=1072.8;	FE=178	360.3978	872.0564	424.2125	376.7136
KI=1079.0;	FE=179	325.3926	189.6145	27.7705	30.2802
KI=1081.6;	FE=180	0.0000	0.0000	0.0000	0.0000
KI=1087.2;	FE=182	252.5914	146.2084	176.7202	153.5538
KI=1089.4;	FE=183	0.0000	0.0000	0.0000	0.0000
KI=1093.8;	FE=185	0.0000	0.0000	0.0000	0.0000
KI=1096.0;	FE=186	0.0000	0.0000	0.0000	0.0000
$1100-n-C11-ANE;	FE=187	281.4850	149.1098	284.9669	232.0422
KI=1104.4;	FE=189	294.1205	147.6602	116.6187	141.2047
KI=1108.4;	FE=191	96.9460	53.6159	101.8031	85.2809
KI=1112.6;	FE=193	186.8303	95.6855	23.6981	25.4024
KI=1115.8;	FE=194	106.1543	52.0777	80.3154	67.2182
KI=1119.7;	FE=196	0.0000	0.0000	0.0000	0.0000
KI=1123.4;	FE=198	0.0000	0.0000	0.0000	0.0000
KI=1127.0;	FE=199	415.6183	174.2306	264.6078	203.7683
KI=1129.4;	FE=200	132.3414	58.9295	119.2355	94.1501
KI=1132.7;	FE=201	0.0000	0.0000	0.0000	0.0000
KI=1135.0;	FE=203	0.0000	0.0000	0.0000	0.0000
KI=1139.7;	FE=205	710.0625	421.5861	191.3048	141.6917
KI=1144.0;	FE=207	386.0930	188.7103	129.0345	72.5883

TABLE 33 (concluded)

KI=1148.3;	FE=208	830.3403	403.3325	179.0805	140.8499
KI=1152.6;	FE=210	0.0000	0.0000	0.0000	0.0000
KI=1156.1;	FE=212	383.5666	175.2928	85.7247	0.0000
KI=1159.8;	FE=214	449.9610	215.9592	92.0309	52.3598
KI=1164.2;	FE=216	280.8057	139.2409	182.0767	114.2287
KI=1170.4;	FE=217	32.8946	0.0000	0.0000	0.0000
KI=1171.4;	FE=218	56.5123	0.0000	0.0000	0.0000
KI=1179.7;	FE=220	0.0000	0.0000	0.0000	0.0000
KI=1181.4;	FE=221	0.0000	0.0000	0.0000	0.0000
KI=1185.3;	FE=222	21.4602	7.2078	0.0000	0.0000
KI=1189.6;	FE=223	0.0000	0.0000	0.0000	0.0000
S1200-n-C12-ANE;	FE=227	242.5863	117.0792	309.8018	250.4328
KI=1207.2;	FE=230	0.0000	0.0000	0.0000	0.0000
KI=1214.2;	FE=232	281.1584	130.8145	516.5249	441.2070
KI=1218.2;	FE=233	11.5531	0.0000	0.0000	0.0000
KI=1233.9;	FE=238	162.7568	0.0000	70.0716	0.0000
KI=1241.7;	FE=240	0.0000	0.0000	0.0000	0.0000
KI=1245.4;	FE=241	0.0000	0.0000	0.0000	0.0000
KI=1254.8;	FE=244	0.0000	0.0000	0.0000	0.0000
KI=1259.3;	FE=245	0.0000	0.0000	0.0000	0.0000
KI=1264.0;	FE=246	0.0000	0.0000	0.0000	0.0000
KI=1270.2;	FE=248	0.0000	0.0000	0.0000	0.0000
KI=1273.1;	FE=249	0.0000	0.0000	0.0000	0.0000
KI=1282.7;	FE=253	152.9607	81.8857	0.0000	0.0000
S1300-n-C13-ANE;	FE=257	61.6837	77.6508	143.0321	155.3437
TOTAL CONCENTRATION		23414.6760	15157.0550	36736.8910	31475.0980
CONC. NAMED PEAKS (% REL.)		2.341E+04	1.516E+04	3.674E+04	3.148E+04
TOTAL CONC(% REL.)		2.341E+04	1.516E+04	3.674E+04	3.148E+04
% CONC. NAMED VS. TOTAL		100.00000	100.00000	100.00000	100.00000
NO. OF NAMED PEAKS		115	106	163	160
TOTAL NO. OF PEAKS		148	120	181	177
% NAMED VS. TOTAL PEAKS		77.70270	88.33333	90.05525	90.39548

TABLE 34. SUMMARY OF PERCENT NUMBER OF PEAKS NAMED AND PERCENT CONCENTRATION OF PEAKS NAMED IN DUPLICATE GC/FID ANALYSES OF VAPOR PHASE FEATURES

MRC Sample ID No.	Percent Number Named vs. Total Number of Peaks		Percent Concentration Named Peaks vs. Total Concentration	
	Analysis No. 1	Analysis No. 2	Analysis No. 1	Analysis No. 2
585	93.7	92.7	99.9	95.5
586	96.1	96.4	99.9	99.9
589	97.8	100	99.9	100
590	93.5	94.9	99.9	99.9
591	99.3	98.4	99.9	98.3
592	98.6	98.7	99.5	99.5
593	99.2	100	99.9	100
594	93.0	90.5	99.8	99.7
595	94.1	94.3	98.6	98.7
596	94.2	94.0	98.1	99.9
597	97.6	98.1	99.9	99.9
598	95.9	96.5	99.6	99.7
599	98.0	99.1	99.9	99.1
600	96.5	98.2	99.9	99.9
601	94.2	94.9	99.9	99.8
602	95.9	97.9	99.8	99.9
603	95.8	96.0	98.2	98.2
604	97.1	96.6	99.8	99.8
605	97.7	97.6	99.9	99.9
606	92.6	95.0	97.3	98.1
607	96.6	96.0	97.3	97.2
608	95.0	94.5	99.8	99.4
609	96.4	95.6	99.9	99.9
610	97.4	98.1	99.7	99.9
611	96.7	99.3	99.5	99.9
612	99.1	99.4	99.9	99.9
613	96.5	98.4	99.9	99.9
614	95.2	96.0	99.5	99.6
615	92.8	91.0	99.8	99.7
616	97.3	97.5	99.9	99.4
617	97.6	94.6	99.9	99.9
618	96.7	97.0	99.9	99.9
619	96.6	96.9	99.9	99.9
620	96.1	96.0	98.8	96.2
621	95.5	96.3	99.9	96.7
622	95.3	96.8	99.7	99.9
623	97.5	97.2	98.7	95.6
624	98.9	99.4	99.9	99.9
625	92.1	96.3	96.3	99.9

TABLE 34 (concluded)

MRC Sample ID No.	Percent Number Named vs. Total Number of Peaks		Percent Concentration Named Peaks vs. Total Concentration	
	Analysis No. 1	Analysis No. 2	Analysis No. 1	Analysis No. 2
626	100	97.9	100	99.9
627	96.8	96.0	99.9	96.5
628	96.3	95.8	99.9	98.7
629	97.7	97.8	99.9	99.9
630	97.7	98.5	99.8	99.9
631	96.2	95.8	97.5	98.7
632	98.6	94.2	99.9	99.9
633	93.9	92.8	99.9	99.9
634	97.0	95.7	99.9	99.9
635	88.2	90.5	99.6	99.7
636	90.5	90.5	99.7	99.7
637	97.0	97.0	99.9	99.9
638	99.3	99.3	99.9	99.9
639	95.8	97.5	99.9	99.9
640	95.0	95.5	99.7	99.7
643	97.1	96.7	99.8	99.8
644	97.2	98.6	99.9	99.9

TABLE 35. NEAT FUEL FEATURE CONCENTRATIONS FOR SELECTED COMPOUNDS

Compound	Feature Number	JP-4 Reference Fuel [From Table 17, Ref. 1] Average Conc.(mg/ml)	JP-4 Reference Fuel [From Table 17, Ref. 1] %Rel.Std.Dev.	Database of 54 JP-4 Petroleum-derived Fuels [From Table 36, Ref. 1] Average Conc.(mg/ml)	Database of 54 JP-4 Petroleum-derived Fuels [From Table 36, Ref. 1] %Rel.Std.Dev.
benzene	23	3.64	7.85	4.1	100
n-heptane	31	25.1	4.21	24.3	42.6
toluene	50	8.51	4.15	13.8	60.0
naphthalene	217	2.66	12.3	2.2	54.8
total concentration	-	607	4.13	601	11.7

TABLE 36. WATER SOLUBLE FEATURE CONCENTRATIONS FOR SELECTED COMPOUNDS

Compound	Feature Number	JP-4 Reference Fuel [From Table 8] Average Conc.(ug/l)	JP-4 Reference Fuel [From Table 8] %Rel.Std.Dev.	Database of 53 JP-4 Petroleum-derived Fuels [From Table 11] Average Conc.(ug/l)	Database of 53 JP-4 Petroleum-derived Fuels [From Table 11] %Rel.Std.Dev.
benzene	23	1.34x10(4)	9.39	1.61x10(4)	89.6
n-heptane	31	157	11.2	132	43.7
toluene	50	9.48x10(3)	10.6	1.62x10(4)	64.0
naphthalene	217	ND	-	328	63.9
total concentration	-	3.64x10(4)	9.29	5.03x10(4)	48.1

TABLE 37. VAPOR PHASE FEATURE CONCENTRATIONS FOR SELECTED COMPOUNDS

Compound	Feature Number	JP-4 Reference Fuel [From Table 25 and Equ. 6] Average Conc.(ug/l)	JP-4 Reference Fuel [From Table 25 and Equ. 6] %Rel.Std.Dev.	Database of 55 JP-4 Petroleum-derived Fuels [From Table 29 and Equ. 6] Average Conc.(ug/l)	Database of 55 JP-4 Petroleum-derived Fuels [From Table 29 and Equ. 6] %Rel.Std.Dev.
benzene	23	4.68x10(3)	8.46	6.18x10(3)	116
n-heptane	31	1.20x10(4)	14.1	1.18x10(4)	44.8
toluene	50	2.96x10(3)	16.0	4.80x10(3)	62.1
naphthalene	217	9.51	32.6	20.0	192
total concentration	-	31.2x10(4)	10.7	33.3x10(4)	25.5

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